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THE APPEAL OF THE NATURAL SCIENCES

AGAIN the revolving year brings us all together at the opening of the autumn term. And yet not all,—no university gathering is ever the same in two successive years. Since last September a thousand and yet again a half a thousand earnest young men and women have left us and have gone to all quarters of the earth to take their places in the world's work. To us who remain their faces have become a cherished memory; their future efforts are a subject of confident trust. Twelve months before there were a thousand and less than half a thousand; and as our minds run backward over the earlier years we recall the time when the departing graduates were numbered by hundreds, still earlier by tens; at the very outset in the small beginnings of colonial days by units. At this the opening of the one hundred and sixtieth year of the institution's life, we hark back to the past more naturally than we would were the year drawing to its close. At Commencement eyes are turned toward the future; but as we gather ourselves together for renewed effort eyes may be most fittingly for the moment turned toward the past.

It seems a far cry from the Columbia of today to the Kings College of 1754, hovered under the wings of Trinity Church in the little Colonial town. Much has happened meanwhile and vast changes in conditions, in population and in magnitudes of all sorts have come to pass. But the succession is unbroken. We recognize ourselves to be the end members in a long and honorable line. We may for the moment put ourselves somewhat in the frame of mind of the Orientals to whom the worship of ancestors is a vital part of life and we may endeavor from our line of ancestry to draw strength and inspiration for the year's work.

We can do so the more readily because the newness of these buildings is wearing off. Year after year great meetings have been held in this room until its aspect is becoming familiar and it is associated with the feelings of uplift which great audiences give. Ivy begins to cover our walls, and tradition, inheritance, the priceless influence of the past more and more assert themselves. They are indeed one of the great possessions of the University, to which, amid omnipresent change and newness, despite incomparable improvement and convenience, we are prone sometimes to be less sensible than we ought. Let us then run back to the earlier days in the natural sciences in the old Columbia and let the masters of those times make the first appeal for their beloved pursuits.

A century and a half ago, the natural sciences, as the various branches were collectively called, were given less recognition in systems of education than became the custom later. The very name "natural" is itself an interesting commentary on the habit of thought of the time. There were "natural" and "revealed" religion; "natural" and "intellectual" philosophy; the "natural" man, much to his discredit, was contrasted with the "spiritual" man. Even in my own schoolboy days we studied "natural philosophy" instead of physics. The point of view, bred especially in the cloisters, that there was something vaguely wicked about the great world of the out-of-doors had not been outgrown. All will recall that curious phase of thought, current to a certain degree among the ancients, still more generally developed among the people of the Middle Ages, and still strong among ignorant and superstitious peoples today, which ascribes something uncanny, vaguely harmful, and even demoniacal to the phenomena of nature. Deep ravines, dark recesses of the woods, gloomy caverns with their hordes of devilish-looking bats, the very darkness of night itself, and many other perfectly innocent and to us irresistibly attractive objects of study were looked upon by our forefathers as things accursed. The old habits survive for us in many a story and legend; they have furnished for us the charm of several operas, as in the *Freischütz* and *Tannhäuser;* and they cast an interesting sidelight on the men and times of the past. But it has taken many years to outgrow them and their germs are part and parcel of us today Our forerunners in natural science had to contend with them, and they were very real obstacles in the way. They were not without their influence on courses of study and in marking the channels in which the currents of instruction ran.

Education in the old days, as we all know, was chiefly work in languages, literature, mathematics, and so-called mental philosophy. The subjective mind was the all-important point of attack. The objective universe gained recognition later.

In the eighteenth century in America the natural sciences received organized care and oversight first in Philadelphia, then the chief American center of intellectual and social life. Benjamin Franklin founded the American Philosophical Society in 1769, the pioneer of our scientific associations, an ancient but still vigorous body, in which membership today is one of the chief prizes for men of science in this country. Eleven years later came the American Academy of Arts and Sciences in Boston. In 1812 the Philadelphia Academy of Sciences was organized, and five years thereafter the New York Lyceum of Natural History, now the New York Academy of Sciences, made the fourth of our vigorous scientific bodies. It is extremely interesting to read the books of travelers who visited these three cities in the early decades of the last century and to note their comments upon the meetings of the societies mentioned and upon their collections and general activities. The New York Lyceum of Natural History with its building on Broadway, near Spring Street, was the scene of many an animated gathering.

There is great satisfaction in noting the attention to natural science which was given in the early days of Kings College. It was really greater than was often the case. President Samuel Johnson, an accomplished classical scholar, constituted the entire faculty when instruction began for eight entering students, July 17, 1754. The next year he was aided by his son William, like himself a graduate of Yale. William Johnson was a fellow or assistant tutor;

but the first actual professorship was that of mathematics and natural history, to which, in 1757, Daniel Treadwell, a graduate of Harvard, was called. Professor Treadwell, by agreement, taught the senior classes "mathematics and natural phylosophy," and the youngest class Latin and Greek. The establishment of the medical school, ten years later, added to the staff a professor of chemistry and the materia medica. When the War of Independence had passed and efforts were made to resume instruction in 1784, the College had an annual income of one thousand pounds. A movement arose to increase this amount and to establish seven professorships, viz., Latin, Greek, moral philosophy, rhetoric and logic, mathematics, natural philosophy, astronomy. We scientific men may note with a wee bit of wicked satisfaction, that it was proposed to give the professors in Latin, Greek and moral philosophy one hundred pounds yearly; the professor of rhetoric and logic fifty pounds; while the three professors in the sciences were each to receive two hundred pounds. During the closing decades of the eighteenth century instruction was also given in geography, in botany and, in 1792, a chair was established of natural history, agriculture and the arts dependent thereon. It was held by Dr. Samuel L. Mitchill, one of the leading citizens of the city, later member of Congress, and first president of the Lyceum of Natural History.

The foundation of the School of Mines, whose fiftieth anniversary we are planning to celebrate next May, placed the natural sciences upon the firmest foundation which they had possessed up to that time, and while we look back to the earlier names of Mitchill, Hosack, Adrain and Torrey with veneration, we feel that in the inner circle of the College and the closely associated engineering school, the names of Egleston, Chandler, Newberry, Rood and Van Amringe are the ones that make the strongest appeal.

The lives and works of those who have gone before exert a very strong pressure upon us to maintain the traditions and to pass on to our successors in undiminished importance what we have received. But these influences are active only upon those of us who are year after year in the University. They cannot furnish the appeal to the young men and women who come to us and to other institutions for instruction. It may not be inappropriate, therefore, to also consider at the outset of the year the various forces which turn them toward the natural sciences and then the effect of these studies upon minds and characters. It is a subject in which I have long been interested and which I have followed up by the reading of biographies, by conversations with many of the older scientific men and with younger workers. But all of us teachers of science, who for periods of years have had young men come to study with us our favorite subjects, have inevitably noted the various influences which have prompted them to do so.

Some young men are naturally hunters or fishermen and become thereby attached to outdoor life. An obscure inheritance from some far-off ancestor, who was forced to hunt or to fish for the necessaries of life, may oftentimes assert itself. The latent savage in us, in so far as it may revive and lead to a life in the open, is to be cultivated and developed rather than to be suppressed and bred out. No one, young or old, can roam the woods or fish the streams, the lakes or the ocean, without forming a profound attachment for these surroundings. The pastime of the free days of youth brings into the field of view possible subjects of study for maturer years and occasionally for a life-work. If a youth possesses a studious, thoughtful and reflective type of mind, he is drawn well-nigh irresistibly to continue in these ways. Dr. Henry van Dyke in one of his charming sketches describes the taking of his first trout under the guidance of his father and the deep impression which it made upon him. So many similar experiences followed, with close comradeship between father and son, as to lead our delightful author to wonder in a mood of whimsical and touching fancy, if somewhere in the Elysian fields of the future the comradeship will not be resumed. One can not but suspect that it must have been a close decision in his early life whether the youthful van Dyke should become a clergyman or a naturalist; or, as the result proved, a happy combination of both.

Some young men have not roamed the woods or fished the streams for sport in their earlier years, but have been naturally of an observant and accurate habit of mind and have been accustomed to note likenesses and differences. The plants, the animals, the minerals and rocks have been the objects to which they have turned and upon which they have exercised their efforts. From an early and close acquaintanceship with a limited area they have begun to wonder about the world outside. The longing to know more fully has brought them to the lecture rooms of the university.

Some are natural collectors and bring together minerals or plants or the smaller forms of animal life in private cabinets. Many a lad has worked by himself over his little herbarium, his trays of minerals or butterflies or birds or beetles until the interest thereby aroused has shaped his future life-work. The beauty of crystal form or of plant structure has appealed to a few more susceptible natures and has drawn them to the study of objects whose attractions seemed irresistible. There are, moreover, from time to time, teachers born into the world—men and women with the gift of clear exposition and with the irrepressible call to shape their lives so as to give it free scope. Some turn to languages; some to the subjective thought of the past; some to moral, religious or economic instruction; and some to preach the gospel of the out-of-doors and of the world of nature.

Some men, especially amid the mountains or in the deserts such as we find in our western states, are born and reared amid the grand and striking phenomena of nature. Great gorges, abrupt precipices or barren wastes may well raise in their minds the desire to know more about these phenomena. We always find the people in such surroundings reflecting on the causes of things about them and groping for their explanation, it may be blindly, until taught the conclusions laboriously attained by earlier students and until they are steadied by the accumulated results of many observers. There are in other regions young men of a naturally inquiring type of mind, human interrogation points, with a consuming desire to discover the reason of things. The currents of human life and action sometimes attract them less than the phenomena of nature. They turn to the latter as the proper objects of their effort. If endowed with that happy but rare combination of an ability to reason logically and closely and yet to let imagination have its revealing play, they may advance the outposts of knowledge in no small degree.

Let me illustrate by the lives of two or three geologists, selecting them because they are less familiar than the youth of some of the more widely known names in other branches and are therefore possessed of freshness and newness. James Hall, our famous New York state geologist of other days, was a lad in Hingham, Massachusetts, near Boston. Hearing that a school had been started near Troy, N. Y., where natural sciences were especially taught, and having slender resources, he walked from Hingham to Troy and began his studies. He roamed the hills around the little city of the upper Hudson valley, collected the plants and animals, became a teacher in the school and ultimately the official of this and other states. He devoted his mature years to the description and illustration of the dead and gone life of the past with such skill, that his works are among America's greatest contributions to science. Peter Lesley, the famous state geologist of Pennsylvania, was a graduate of the Andover Theological Seminary. From failing health he gave up a settled pastorate and became a distributor of Bibles in the remoter hills of New Jersey and Pennsylvania. Walking from cabin to cabin of the mountaineers, his eye caught the wonderful geological structure displayed in this region and he turned to natural science, never losing, however, that love of his fellow-man which first directed his steps to the mountains as a colporteur of sacred books. Newberry, our old-time and distinguished professor, was a boy amid the coal-mines owned by his father in eastern Ohio. The wonderfully preserved ferns in the beds associated with the coal interested him profoundly. In later life he tried to curb his natural tendencies and practice medicine in Cleveland, but after five years he gave up the struggle and became naturalist to several successive exploring parties, sent out by the federal government in the west. After the Civil War he was called to be one of the half dozen professors in our School of Mines. He was our first native-born student and describer of the floras of past geological time.

There come also to our class-rooms young men of able and gifted minds, but as yet with no positive inclination toward any special line of work. The influence of some teacher who has the divine fire may arouse latent interest and ambition so that a career of good and serviceable work opens out. To this last group who enter the class-rooms without special call for the future and whom a teacher can influence for a few months, it is all-important, whether they follow science or not, to present in addition to the hard facts of the subject as many of its great truths and generalizations as possible. We should leave some deep imprint which they never can forget. The conception of the earth, for example, as the product of the long, long interplay of many forces is one which can be readily driven home. The rise and fall of continents, the advance and retreat of oceans, the records of the more recent, and then of the remoter and finally of the most ancient past, which have now been brought into orderly sequence, convey an impress which, once stamped, can never be effaced. When, therefore, the future lawyer, physician, clergyman or merchant travels and looks upon mountains, plain and ocean, they mean something to him, and his intelligence grasps them in a way not only to add to his enjoyment, but to make him a broader-minded and better member of human society.

The effects are the same with other branches of natural science. Even from elementary work with plants and animals, some grasp can be gained of their kinds and local associations. Some standard of comparison with other regions is afforded such that by an observant eye intelligent parallels can be drawn. No one who has even a superficial knowledge of the plants and trees in our northern states can travel in the north of Europe without being constantly reminded of his home surroundings. The little twin flower, *Linnaea,* growing on the sands and glacial boulders of our northern and Canadian mountains, has removed the homesickness from the heart of many a Scandinavian settler and has made him feel as if the world was very narrow after all. And thus arise the questions of animal and plant dispersion. Why is it that they are so nearly the same on opposite sides of the ocean, or that one little vine with the most delicate and fragrant flowers imaginable can girdle the earth in its northern latitudes.

Again, if with collections and with field experience we can bring home to an intelligent student that one species of plant or animal shades off through close relatives and similar varieties into others and then to others more remote, so that, although we recognize the entire unlikeness of the widely separated members, we hardly know where to mark a break in the series, a new and startling view of nature is gained. Or, if we find difficulty in bridging some of the gaps among the surviving species on the earth today and appeal to the evidences of the fossil past so as to show converging lines of ancestry, the organic world takes on new aspects and an orderly, reasonable and understandable character, not possessed before.

The strongest, most striking and most readily received impression of all is the one given by the heavens. The sun and moon, the planets and the more distant fixed stars, set as we know them to be in orbits capable of exact mathematical expression, open to our view in all parts of the world, equally visible from land or sea, and best of all in the clear atmosphere of the desert, these make the profoundest impression and the strongest appeal of all the branches of natural science. The enormous distances, the order and precision, the series from glowing nebulæ to dead cold bodies, the vast stores of energy radiating into space stimulate an inquiring mind as does no other branch of natural science. We are face to face with the origin and development not alone of one world, but of many worlds, indeed, of the universe itself.

But there is one additional appeal from the natural sciences which, in a fairly new and rapidly developing country like our own, is particularly strong to the minds of young men. It was not altogether by chance that the natural sciences received their first recognition in the medical school of Columbia College in 1767 nor that they were first placed solidly on their feet with the establishment of the School of Mines in 1864. The appeal is based on their useful applications and the assistance which they can give to the practice of medicine and surgery and to all branches of engineering and manufacturing. There was formerly a disposition to think lightly, sometimes even scornfully, in university circles of the applications of our natural sciences and to conclude that if a professor or student once became influenced by them, he lost his ideals and his devotion to pure investigation. But I think we have outgrown this narrow point of view. Not so very many years have passed since the brilliant course of lectures delivered at this University by the late Professor James, in which he set forth the principles of pragmatism. That is, if I understood them correctly, he applied to systems of philosophy and all manner of doctrines very much the same tests that we use for all sorts of useful devices. Will they work? Will they do good service? Are they worth while? Some have at once concluded that pragmatism restricts idealism and minimizes respect for grand truths which stand eternally whether they are of service to mankind or not. Possibly in connection with the last results of mathematical reasoning there may be ground for the criticism. On the other hand, there is much to be said in favor of the check which the pragmatic point of view puts upon vain and idle lines of thought leading nowhere; in favor of the curb placed upon the putterer in the fields of intellectual activity; or, to use another figure, in favor of the jetties by which it keeps the current of thought in safe and deep channels. Our colleague Professor Fullerton has shown in his recent stimulating work, that in all philosophical reasoning we must take into account that great body of human experience and its resulting influence on habits of thought which is the common heritage of every man. To be intelligible and to exercise an effective influence, the work of a teacher is blocked out by these all-important considerations.

It is no reflection on the natural sciences, therefore, that they do good service to our modern civilization, nor need the students and teachers of them feel otherwise than proud that their studies have been of service to mankind. The investigator into the minute forms of life, whether of plant or animal, has often found his inspiration in the hope that his results might decrease disease and relieve human suffering. The worker upon the larger forms of plants and animals has multiplied in extraordinary degree the foodstuffs and fabrics. The close study of minerals and their occurrences in nature has added to our mines and supplies of the metals. Even the very fossils in the rocks, the type and symbol in the minds of many for the useless and the negligible, have in the hands of the geologist been of indispensable assistance in selecting the best course for a great, new aqueduct which is to supply our metropolis with its necessary water.

Now the belief that what a student learns, both of scientific fact and doctrine, will be of service to him in his future profession in medicine, engineering or kindred lines, is a very strong and a very worthy appeal. It draws not a few to our courses of study and makes of them diligent workers in the class-room and laboratory. That instructor will gain the best results, who, while abating in no particular the thoroughness of his presentation, yet slips in the pregnant illustration, which from time to time, ties up his subject with the future work of his students. We thus exemplify the truth of the doctrine, expounded in its most general form by Professor Fullerton, that for results we must consider that great body of accumulated experience which has shaped our habits of thought.

In referring to the useful, I do not mean to limit the field merely to the satisfaction of material wants. To enlarge the life of the spirit is, when gaged by its results, as beneficial a service to humanity as to feed the hungry, clothe the naked or relieve the suffering. But the final values are determined by the fruits.

While I have spoken of the connections between the natural sciences and the professions of medicine and engineering, there are many points of contact between the student of nature and the artist on one side and the poet on the other. As between the first two there is the consuming ambition to faithfully depict what one has seen. The scientist does it with descriptions, fortified more and more in later years with pictures. The descriptions reproduce for a person at a distance the object before the actual observer. They record for the future the fleeting things of the present. In so far as the artist deals with the actual rather than the imaginary, his ambition is likewise to give true and accurate impressions, and by his medium of expression to convey his thought to others. The record is, indeed, not for comparison with the original at some future time, as it is with the scientific man, and it appeals rather from its own intrinsic excellence than because it places objects in systems of classifications or shows them to conform to law; but the inspiring motive or ideal which holds each to the proper fulfilment of his task is the same. Wielders of the brush or of the chisel often become as thorough masters of bone, muscle and form as the professional anatomists themselves. The portrayers upon canvas of mountains and canyons must be true to geological structure as much as if they were geologists. Ruskin, you will recall, has emphasized this truth in one of his essays. Sometimes the portrayer of landscapes and the geologist strike hands and work together. Thomas Moran, the artist, was in the party of Clarence Dutton, the geologist, when the Grand Canyon of the Colorado was studied thirty years ago. They greatly aided each other, and sometimes when we read the word-painting of Dutton and view the color-portrayal of Moran, we hardly know which was the greater artist. Certainly both were profoundly moved by their surroundings and singularly gifted, each in his own medium of expression.

One soon learns from the lives of geologists, that over and over the masters of the subject have turned to their sketchbooks and pencils to faithfully record what they saw in the field. The excellence of the portrayal leaves us sometimes in doubt whether they were the more artist or scientist. Indeed, we may wonder if after all, when the real master appears, the two terms are not synonymous. Deep down in the fundamental inspiration of each you will find an identical substratum.

The close relations between the student of nature and the poet, I fancy, you will find less easy to establish, and yet there is much in common. The parallel may be first drawn between the means of expression. The music of verse is based upon orderly mathematical relations as much as the music of notes. In fact, the two are not far apart in this primary feature, and the appeal of each to the ear is based on the fondness of our minds for just this orderly arrangement of sounds and accents. The order and the harmony are necessary, otherwise we are in revolt. The student of plants, animals or minerals seeks to classify them all in natural and related groups. The relationship, the conformity to law, the harmony thus displayed are what appeal to him. Through drudgery, hardship, effort without limit, they carry him unfalteringly to his goal. The geologist seeks the laws which govern the phenomena of our material earth; while the astronomer deals with the forces of attraction, which bind the universe in a united whole. The words of a poet and the phenomena of a naturalist fall into very similar relations. But back of the words of the poet and back of the phenomena of the naturalist, there must be in the mind of each an insight into the meaning of things, which is a very rare and very great gift. Fullness of experience and broad knowledge of the phenomena of human life on the part of the one,—equally broad and comprehensive grasp of the phenomena of nature on the part of the other, lead to revelations of otherwise unsuspected truths.

We are not without illustrations. It is really quite impressive that when we come to know the lives of geologists intimately, we very often find them expressing themselves in verse. I doubt not, if we could have access to their notebooks recorded in the field, we should find many a stanza, in which, amid grand scenery, the geologist sought to give utterance to the emotions which filled him. Some have actually gone to press. The verses of Perceval, the old-time geologist of Connecticut and Wisconsin, fill a volume in the works of earlier American writers. Throughout the Life and Letters of Sir Andrew Ramsey, the late chief of the geological survey of Great Britain, we find now a sonnet, again a song, in which his feelings found irrepressible outlet. Only a few years have passed since the late Professor Shaler, the man of great heart and boundless sympathies, long in the chair of geology at Harvard, gave us five volumes of dramas, reproducing the Elizabethan period, and all in verse. His thought found metrical expression with great ease and fluency. His geological training, with its broad sympathy with nature, was far from an inappropriate preparation for the task. To come nearer home, many of us will recall that from the severe mathematical training of our School of Mines, have come two of the most graceful and appealing of our modern American writers of verse. It is rare that stanzas go so straight to our hearts as do theirs. Indeed, unless the student or investigator of scientific problems has in his composition some infusion of the divine fire, his work never rises above the humdrum and the commonplace. He *must* at times feel his heart burn within him as he walks the ways of his chosen calling.

Many, as I have mentioned, follow courses of study in the natural sciences from interest in the subjects, but the student can not do so without a reflex influence upon himself. He is, for example, obliged by the very nature of the pursuit to be accurate, precise and orderly in his thinking. False observations, careless records, or confusion of thought bring no results. Clearness and a remorseless regard for the truth must be all absorbing. There is and can be no attempt to make the worse appear the better reason; there is no complexity of motive; but simple and direct habits of mind must be cultivated. Results are to be reported to others and are certain to be checked in the future. There is, therefore, the constant pressure to have them right. An ideal is held before a man which is not without its ethical response. While we can not say that it is always manifested in the lives of scientific men with all the force that we might wish, nor that every one of them is as truthful, direct or accurate as he should be, yet the influences of his pursuits are strong, even if not altogether transforming.

The natural sciences, when not pursued as a life-work, exercise in other respects a most wholesome influence. They serve as a change from other work and as a foil to complete absorption in ordinary employments. People in general are too exclusively occupied with matters which concern their own kind alone. It becomes easy to regard man as the end and object of the universe, the old conception of the teleologists. The dwellers in crowded cities tend to be concerned solely with human, purely human affairs. Brick-walls and pavements, the clothing, feeding and housing of men, women and children make up the entire round of life, so that for their use the world may have naturally seemed created. This is an ancient and charmingly childlike conception of the natural world. But when we know something of its complexity, of its wonderful interrelations, of its long past and of the certain developments through which it will pass in the future, these false notions give place to much more correct perspectives. Man is, indeed, a member of the great, organic family, but he has his place in the series, just as do all the other members. He plays his part, but so do they. In some respects he is more impressive than other living creatures, in some respects less so. A well-balanced student of natural science accepts these facts and draws no comparisons of superiority or inferiority. He has borne in upon him the conviction that human affairs are not all of the universe, and that he should be neither unduly exalted nor cast down. A calm and steadfast habit of mind should be his and his studies should exercise this disciplinary influence upon him.

The American who has best given expression to this influence of nature upon man is Bryant. Himself a keen lover of the woods, fields and mountains, he had further the great gift of expressing in dignified and musical verse their effects upon him. In his Forest Hymn, and again in Thanatopsis, we find these influences beautifully set forth. The calm philosophy that places one apart from the small bickerings and petty things of life rings true in his lines, and often the words go coursing through our thoughts when face to face with the phenomena of nature.

Bryant, however, is not alone in giving utterance to these conceptions of life. Many and many a naturalist—to use again, as I have several times already, this old descriptive term for a student of nature—many a naturalist has felt the same and has from time to time set down in his pages the thoughts regarding a philosophy of life, which sprang for utterance while describing material phenomena. We have had within a few years a monumental work from a venerable and greatly beloved Austrian geologist, Eduard Suess. He has discussed "The face of the earth," that is, he has passed in review the entire surface of the earth, its elevations and depressions, their connection with geological structure and time of production, their characters, relationships, systems, causes. He spreads before us a wonderful panorama and casts a flood of light upon its obscurities. But when he comes to his closing sentences he is reminded that his pages are to be read by men and women and to have their influence upon human lives. Recognizing, therefore, the problems which have been solved, and the many others which remain for the future, he sums up in the following words:

> In the face of these open questions, let us rejoice in the sunshine, the starry firmament and all the manifold diversity of the Face of our Earth, which has been produced by these very processes, recognizing at the same time to how great a degree life is controlled by the nature of the planet and its fortunes.

JAMES FURMAN KEMP

PHILOSOPHY AND NATIONAL LIFE*

I FEEL it as a very great honor that I have been chosen as the first representative of American science to fill the new exchange professorship with Austria; to bring the greetings of the scholars of the western world to a great state and to a great city so honorably known in the annals of history, and so respected in both hemispheres in our own day as the home of those arts and sciences which add dignity and grace to human life. I wish that I could clothe the office more gracefully and could say what is worthy of the occasion.

For I feel that the occasion is a great one. It is the making of a new contact between two states, each with its significant part to play in the history of civilization. That the two great states should work together in harmony, with a clear understanding of each other's methods, with a cordial sympathy with each other's aims, recognizing each other as members of the one family, willing to give gracefully, and, what is sometimes as hard, willing to receive gracefully, this consummation is worthy of the earnest efforts of us all.

In the modern world no nation can live to itself. Science and enterprise have brought together the nations once sundered. Space and time have been, if not abolished, at least so contracted that they are no longer serious obstacles to communication and intimate union. The development of industry and commerce has made all men partners in one gigantic enterprise. An earthquake in San Francisco, a great fire in Boston, a war or the rumor of a war in some corner of Europe or even in Asia, are felt as disasters in both hemispheres. Each nation, in striving wisely to serve itself, serves, in our modern economic world, its neighbor. Its activity, whatever its immediate aim, contributes to the common fund upon which all nations may draw. There has never been a time at which it seemed more unwise and more short-sighted for men to refuse to live in harmony. He who strikes at his neighbor is hitting his own hand or his own foot. The common nervous system which connects them will make the pain of one the pain of both.

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* English version of inaugural address, American exchange professorship to the Austrian universities, delivered at Vienna, October 20, 1913.

Nevertheless, adjustments are not yet complete. In business enterprises it is too much to expect of human nature that even partners should always be agreed. And while it is assumed that men buy and sell because they believe the transaction to be mutually profitable, it remains a melancholy fact that, after the affair has been concluded, both parties do not always go away with the conviction that they have gained equally. There may be heart-burnings and jealousies. In the material realm, men may be firmly convinced that, by working together, each will gain the more. Yet material goods must be divided; what falls to the share of the one can not fall to the share of the other; and the effort to increase this share or that may result in ill-will, and may obscure for a time the essentially social nature of human endeavor even in the economic field.

Fortunately for me, I do not stand here as the representative of the class of activities which may, even temporarily and accidentally, result in ill-will and disunion. The wealth of the mind is not private property, nor is it diminished when we share it with another. He who has it gives freely to every man who is capable of receiving it. To him the glory of the discovery—his neighbor may dip his hands into the treasure, and may appropriate what he will. It is as though the discoverer of gold retained only the honor of being the one who led the way to a treasure, which, once discovered, became the common property of mankind. He who adds directly to such wealth, or plays any part in preparing others to do so, can not but be regarded as a public benefactor. His gain is the gain of all. Without being untrue to those nearest to him, he is the friend of all men.

What has been done by Europeans in filling the treasury of the world with the wealth of the mind impresses deeply every intelligent American. It is impossible for him to walk the streets of a great European capital like Vienna without feeling the presence of the mighty dead who have labored for humanity; who have enriched and beautified the life of man, creating forms which must delight the eyes of generations yet unborn, recording thoughts which illuminate nature, which uncover the veiled features of truth, and which bear their fruit in the many aspects of our complex and highly developed modern civilization. He feels the presence of a great and beneficent tradition, an inherited estimate of values, of incalculable significance to the development of mankind. He contemplates with admiration the monuments, the museums, the academies of art and of science,—and not by any means the least does he admire the great university, with its noble past, its many sided disinterested activity, its independent investigators diligently adding to the world's store of knowledge, its teachers training up the younger generation to venerate the ancient tradition, to live for the same high ends, to see deeper into truth than it has been given to them to see.

These things the American should contemplate with an open and appreciative mind. He should rejoice in them, and should feel no emotion of envy. The great minds of all nations have lived and have labored for all. The doors of the world's treasure-house stand open, and he may carry away as much as his shoulders will bear. To be sure, a self-respecting man does not wish to be only a recipient of the world's bounty. He wishes to bring his own contribution. He must bring what he can. Sometimes he must exercise patience, and wait until the time is ripe, and the fruit of his labors seems worthy of a place among the offerings of others.

The European who would make a just estimate of American institutions, and would judge wisely of the contribution which they may bring to the civilization of the future, must not be forgetful of the history of the United States. He must bear in mind the difficulty of the task which the American found before him when he left the little ship which had carried him on his long and perilous voyage across the Atlantic. More than one hundred years after the University of Vienna was founded the existence of the western hemisphere was still unsuspected. At a time when Vienna was an important and a cultivated city, already rich in the traditions of a glorious past, the American colonists had spread themselves in a thin line along the eastern sea-board of the broad expanse which we now call the United States, and had not even formed a conception of the work which it was reserved for them to do. Almost the whole land was a trackless waste, inhabited by warring savage tribes, where the highest wisdom lay in the art of self-preservation in the face of the violence which obtains where civilization has not yet introduced the arts of peace. At a time when the Congress of Vienna, after the great upheaval which had shaken the states of the old world, met to rearrange the map of Europe, the United States constituted a comparatively isolated agricultural community, as yet even in nominal possession of little more than half of their present domain, and but little acquainted with a large part of their nominal possessions.

During a large part of the eighteenth century the American was busied in growing up to fit the size of his house—a house not very much smaller than the whole of Europe. To keep all its rooms in order, and to furnish them artistically, were beyond his powers. Indeed, it is but imperfectly that he can accomplish this task even yet. At the beginning of the eighteenth century, the United States counted among the small nations of the earth, having a population less than that of Spain. At the present time it has a population approaching one hundred millions, and has taken its place among the greatest of great powers.

Growth in size is not necessarily indicative of development, of true progress. Ancient Greece covered a very small part of the surface of our broad earth, but managed, nevertheless, to develop a civilization which has been of incalculable value to mankind. The small Italian communities of an earlier age were the centers of an intense artistic and scientific activity which enriched the world. Indeed, growth may, under certain circumstances, tend to retard development. And yet there may be times when it is the first duty of a people to occupy itself with material interests, and to grow.

Nevertheless, as an American, I am proud that I have something else to point to than the size of my country. When the British philosopher and philanthropist Berkeley, in the first part of the eighteenth century, wrote his enthusiastic poem on the "Prospect of planting arts and learning in America," he was inspired by the inner vision of the prophet. His projected college came to nought, but his dream has in part been fulfilled. The energy, the character, the intellectual, moral, and religious ideals of the American, have resulted, notwithstanding his absorption in the material development of the country, in a civilization which contains many ideal elements, and which contains much promise for the future. The land has developed a certain tradition, an enthusiasm for ideal values, which is rapidly acquiring more and more influence. To live well, one must first live, and in the United States the mass of the people enjoy a well-being which makes life more than a struggle for existence. He who is freed from the bitterness of this struggle is in a position to set his desires upon those goods which do not merely serve the body, but which minister to the soul of man.

There has been developed in the United States a very complete system of elementary education, free to all. There has long been, very generally distributed, an earnest desire, among the more enlightened and energetic, for something higher than this, and there early grew up, in many parts of the country, institutions which gave some tincture of liberal culture, some appreciation of art, literature and science, to great numbers of our youth. Especially in the last decades there have been multiplied institutions which compare favorably with the great universities of Europe, where literature and science find a fitting home, where the atmosphere of true scholarship prevails, where those are brought to the birth who may make their contribution to the body of human knowledge. This development is a comparatively recent one. I have lived through almost the whole of it. As yet scarcely time enough has elapsed to make its full significance appreciated in Europe. The American loves passionately his universities, and makes great sacrifices for their maintenance and their development. Some of them have become legitimate objects of pride and enthusiasm to the most enlightened. Others are passing forward upon the same path.

It is as representing this last and highest product of our American civilization that I stand before you today. A stranger from a distant land, and yet not a stranger, for the great university which I represent is a member in that group of institutions which, in many lands, are knit together into one brotherhood by the identity of their lofty aim—the enlightenment of mankind. This is no feeble bond. Our work is done for humanity, and the barriers which elsewhere divide men become, in the Republic of Letters, astonishingly low. All who serve the common cause faithfully and well stand upon the same footing.

European scholarship has laid the United States under deep obligations. The beginnings of our culture came from Europe, and at no time have we been wholly without the aid which an old and a ripe civilization can give to a younger one. For a number of decades past your higher institutions of learning have been preparing considerable numbers of our most promising youth for scientific activity in the United States. A large number of our most influential professors have secured their training in the universities of northern Europe, bringing with them ideas which have been eagerly assimilated. At last, representatives of American science have begun to come to Europe. This is as it should be. It keeps alive the ancient international tradition of the universities, and it creates a new bond between nations, where every bond is of value.

In the infancy of science the philosopher, as you know, served as its representative. Perhaps it was the unconscious suggestion exercised by this historical precedent that led the Americans to lay me in the cradle of the new exchange professorship. I speak to those acquainted with the history of philosophy, who are aware that science had feeble beginnings. Better things were to come later, and in the fullness of time. I hope that it may be so in the present instance, and that my successors will worthily represent the many aspects of science in which America has its contribution to offer.

Still, I hope that it will not sound immodest, if I maintain in all seriousness, that it is suitable that philosophy should be at least among the first of the subjects of discussion brought by an exchange professor before the students of a foreign land to which he is sent, Philosophy, taken broadly, is not supposed to represent merely knowledge, but also wisdom. It is the reaction of the more thoughtful minds among a people upon the whole of their knowledge. It rethinks, from its own point of view, the materials furnished by the sciences, and it reflects upon human life. Its first effort is not to *extend* human knowledge, but to make it *more profound*. It strives to bring into the light of clear consciousness problems which the less reflective may not see to be problems at all. It reveals man to himself, and it is supposed to yield, or, at all events, to assist one in gaining a *Weltanschauung*. From the beginning it has occupied itself with matters of vital interest to mankind. He who can see clearly through the veil—sometimes a thick one—of words and abstract phrases with which the philosophers have too often succeeded in shrouding their fascinating speculations, their guesses, wise or unwise, regarding the nature of the world in which we find ourselves, can always discern the *man,* intensely human, palpitating with life, burning with the passion to understand all mysteries, painfully conscious of the darkness which surrounds him, his heart beating high with hope or growing oppressed with care, as his thought seems to compel his footsteps to follow this path or that.

A mathematical formula may be carried from one country to another, and it suffers no change. It retains the same number of letters, and the significance of their combination is just what it was in its old home. It is put to just the same uses, and no man can nourish a prejudice against it, because of its foreign birth. As soon as it is born it is a citizen of the world, and may claim all the rights of the citizens of every land.

With a philosophy it is somewhat different. It can pass, to be sure, from land to land. It can be handed down from one generation to another; can be deposed from its high place in the estimation of men in one century, and be placed upon an imposing pedestal many hundred years later. Killed it can scarcely be; for philosophies which men hastily assume to be dead, to have died, perhaps, of sheer neglect, or, it may be, as the result of the deadly thrust of some trenchant argument—these turn out to have been only in a state of suspended animation, and astonish us after a time by showing stirrings of life.

Nevertheless, a philosophy can not be carried over and given a new home unless those to whom it is brought possess the intellectual and emotional constitution which furnishes a fitting environment to the new comer. Every philosophy can not flourish in every soil. And, after transplantation, we find, if there is survival at all, that there appears a process of modification and adjustment. Thus Hegelianism becomes Neo-Hegelianism, and Neo-Hegelianism is not the same doctrine on the continent of Europe, in England, and in America. A germ survives, and there grows up a new plant which may, in some sort, be regarded as indigenous.

A philosophy, then, like a literature, reflects the life of a community, embodies its ideals, reveals its intellectual characteristics and the nature of its aspirations. It is the glory of the mathematical and the physical sciences that they are, within certain limits, coldly impersonal. He who enunciates their propositions serves as the colorless mouthpiece of truth. There is no room for differences of opinion, and neither inherited prejudices nor temperamental peculiarities count for anything. The philosopher, too, if he is worthy of the name, strives to be unprejudiced and impartial. But, if we have any acquaintance with the history of philosophy, or if we will but open our eyes to the significance of what we see all about us at the present time, we must admit that the philosopher can not justly boast the possession of an undisputed body of knowledge, which may be handed over unchanged from one man to another, and which no man in his senses can refuse to accept as it is offered to him.

Thus, philosophy has been, and still is, personal and human. It seems peculiarly fitting that, when the representatives of one nation undertake to bring to the scholars of another some account of its contribution to the world's thought, its philosophy should not be overlooked. Communication is, in this field, self-revelation.

Again: philosophy is rich with the associations of the past. Philosophers long dead still speak to us, and sometimes they move us more than those who are standing at our elbow. In many fields in science it is possible to occupy oneself with the results actually attained in our day, and to pay no attention to the long and toilsome way which has been traveled by those who have preceded us and have carried us to our present commanding height with its impressive outlook into the future. It is possible to distinguish rather sharply between science and the history of science. Those who occupy themselves with the former often consider it no part of their duty to study the latter in detail. There are some in our time and in my own land who would have the philosopher break with the past in somewhat the same fashion. Let us, they say, leave the history of philosophy, and apply ourselves to philosophy itself. Its problems lie open before us.

But those who counsel us to such an independence do not take into account the difficulties of reflective thought. It is not given to all men to reflect, or even to be able to follow intelligently the reflections of others. There are problems still in dispute among philosophers, the materials for the solution of which were as abundantly present in the days of Thales as they are in the present time. The only difficulty lay in the use of those materials; in the presence or absence of a capacity for reflective analysis. Thus, the ancient Greek found in his experience the distinction of appearance and reality. We find it in our experience today, presented as clearly, but no more clearly. Can we afford to set aside all that thoughtful men have had to say upon such a subject in the past? Shall we attack the problem in complete independence? The very fact that we are tempted to attack it at all may be taken as evidence that echoes from the past have come down to us, and have led us to look for a problem where most men see no problem at all.

It is no more feasible for the American, than it is for the European, to be strictly independent in his philosophical thinking. His task is set for him; the foundations upon which he is to build were laid down before his time. But he can exercise a relative freedom in fulfilling his task. From the wealth of material furnished by the past, and from the fertile fields of European thought, he can select what most appeals to him, striving to improve upon what he has borrowed, to recast it, to produce a something which he may rightly call his own. This freedom the American has exercised with increasing independence.

But, as all Europeans are not alike, so all Americans are not alike. There may exist at one time more than one type of philosophical tradition. At the present day there are widely different philosophies competing for a commanding position in America. The influences which determine this man or that to enroll himself under a particular banner, are just what you would expect to find if you inquired into the reasons which induced most Europeans to turn in one philosophical direction rather than another. At a given time certain philosophical ideas are in the air breathed by young men at that critical period which counts for so much in the making of a life. An unusual book appears and sweeps men off their feet. A great teacher puts his stamp upon those who in turn influence a multitude of others. And, not least, the peculiar genius of the individual makes him accessible to some ideas and renders him impervious to others. So schools are formed; and even in our great democracy, the inhabitants of which are said to resemble one another in character more nearly than the inhabitants of most other great countries, there are philosophies sufficiently diverse to satisfy the most divergent of tastes.

At one time American philosophical thought was largely influenced by English and Scottish philosophers. Then came to the front the—much modified—Neo-Hegelian tradition, which may be said to have held a dominant place until within quite recent years. A few years ago the American public was aroused to enthusiasm by pragmatism, largely under the influence of a beloved leader, recently passed away, who had a genius for independent thought and artistic expression. Today the most active and thoroughly living school is, I suppose, that of the neo-realists. It includes a considerable number of acute men, not wholly at one among themselves, as is to be expected, but animated by somewhat the same spirit, and anxious to emphasize the close relations of philosophy to the several special sciences. At present it looks as though the immediate future of philosophy in America lay with these men. Of the remote future of philosophy in any land a wise man will scarcely venture to speak.

I wish that I could bring representatives of these American schools before you, and let American philosophy as a whole speak for itself. This is manifestly out of the question. And a mere description of the philosophies of others would be tedious to you and to me. So I shall first lay before you an outline of the philosophical doctrine which seems most reasonable to me; and I shall then refer, by way of contrast and illustration, to other currents of thought which are influencing men's minds in England and America. Finally, in a separate brief course of lectures I shall give an account of the rise and development of American universities, and indicate their profound significance for the future of our great republic, that you may have before you a clear picture of the conditions under which American science is growing up. For obvious reasons the American turns his eyes towards the east more often than the European is impelled to turn his towards the west. And the intellectual development of the United States has been so astonishingly rapid that even the well-informed European may well be excused for having an imperfect comprehension of the background of modern American thought.

Of all men the philosopher should be the most modest. When he turns his eyes to the past, he sees a long line of august predecessors with whose genius he can scarcely hope to compete. When he contemplates his task, and reflects upon the limitations of man's powers, he should feel himself to be a humble seeker for the truth. When he consults his colleagues, he is made aware of a diversity of opinions which should impel him to hold his own opinions tentatively, and to express them without excessive dogmatism.

Philosophize he must, for the impulse is within him. Philosophize he must, for there are those about him who have the same burning desire to live the reflective life, to pass in review human knowledge, and to scrutinize its limits and its foundations. A word from him may be a help and a stimulus to some one of them. The light as he sees it may be pointed out to his neighbor, and may serve to illuminate his life also. You, as students, bred in the atmosphere of a great and an ancient university, imbued with the spirit of science, which, at its best, is a humble spirit, will understand the feeling with which I stand before you today—proud to bring the greeting of the scholars of one great land to another, but feeling myself too much honored in filling so high an office.

GEORGE STUART FULLERTON

THE WORK OF THE COMMITTEE ON UNDERGRADUATE ADMISSIONS

THE importance to the University of a proper selection among candidates for admission needs no emphasis. The organization and the procedure of the committee which passes upon applications for admission to the undergraduate schools and the way in which this committee attempts to solve its problems may well be of interest to many outside the committee itself.

In March, 1909, the committees previously in charge of the conduct of entrance examinations and of the admission of students to the several undergraduate schools of the University were replaced by a single committee which should exercise all of these functions. The new committee, consisting of fourteen members, was made up of representatives from each of these schools and a chairman appointed in the first instance by the trustees of the University. The chairman was to devote his time primarily to the work of the committee. He was to be accessible to all those desiring information relative to admission, to have charge of the examination and other records of all applicants for admission and to keep in close touch with the work of the secondary schools.

Coincident with the establishment of the new committee a new method of admission was adopted. This method provided that, in passing upon the question of the admission of any candidate, his school record in each subject offered should be taken into account; and that the estimate of his character, ability, promise and personality, as set forth in a confidential report from the head of his school or some other authorized representative, should have great weight in determining the disposition to be made of his case.

Experience had shown that a mechanical application of a purely formal examination system was by no means satisfactory. Even if examination papers were always of the right length, of the right degree of difficulty, made up of questions calling for the amount and kind of knowledge which a well-prepared student should possess, and stated in language which did not confuse or mislead him, and if answer books were always so rated as to receive their exact value, and if the conditions in which examinations were taken were never such as to put the student at a disadvantage, this system would still fall short of supplying a perfect method of admission. No college instructor would base his estimate of the success of the students in his courses solely upon the results of the final examination. Every teacher knows that only in the rarest instances can a student's attainments in a subject be fully shown in any single exercise, even if that be a comprehensive examination.

On the other hand a student who can not, under normal conditions, answer with some degree of completeness and accuracy a set of questions properly framed, upon a given subject, simply does not know the subject. There was no thought, therefore, of giving up examinations. It was believed, however, that the whole record of preparation would furnish a most valuable and instructive supplement to the examinations and that it would supply a corrective for any defects that might occur in the character or rating of the paper and for anything unusual in the circumstances under which the student might take the examinations.

Moreover, the fact that the school record would be included in the data considered by the committee on admissions could serve in the hands of the secondary school as an effective instrument in securing good work from the student throughout the school course. The use of the school record would provide a sound and welcome basis for cooperation between school and college. Such cooperation has been urgently needed for many years.

In the earliest days of American education students were prepared for college in private schools which existed for that purpose. The school modeled its program of studies and its methods of instruction upon the requirements of the college. The private academies which grew up in the early nineteenth century and which largely supplanted the Latin schools did not have preparation for college as their primary aim, while the public high schools came into existence to meet a wholly different demand, a demand for popular instruction, mostly in subjects not then taught in the colleges nor accepted for admission. The consequence was a serious lack of adjustment between college and school and a relative falling off in the number of properly prepared students. The difficulty was met in part by enlarging the list of entrance subjects. Led by the state universities, many higher institutions in the latter part of the nineteenth century sought to cooperate actively with the schools by accepting certificates or diplomas in lieu of entrance examinations.

I shall not at this time enter into any detailed discussion of the certificate system. Undoubtedly it can be made a valuable means of cooperation with secondary schools. On the other hand, it has sometimes been merely an excuse for turning over to those not primarily interested in the work of the college the decision as to the fitness of candidates for admission. Even when conscientiously administered it may lend itself to purely mechanical administration with quite as little recognition of the human element as the most formal examination system. The fact that a student has received the certificate of an accredited school distinguishes him in no way from thousands of others.

It would, indeed, be possible to administer our own system in such a way as to leave it open in some measure to this criticism. But the purpose of the plan included much more than a mere examination of the grades which the candidates had received in school, though these, when carefully considered, do furnish very much more that is important both to the committee on admissions and later to the dean and the faculty adviser than would the single fact of his graduation from a respectable school. In order that the candidate should be something more than a name or a number, it was proposed that the chairman should obtain from the school a confidential report regarding the character, general ability and personality of the student and that he should make every effort to know personally every one who should present himself for admission. To this end and for the further purpose of giving accurate information to all who should inquire regarding admission, it was provided that an office should be maintained for the committee and that the chairman should have it among his principal duties to meet enquirers and, so far as possible, to acquaint himself with candidates while they were still pursuing their courses in the secondary schools.

Within the past few years many colleges have turned their attention to the need of treating their students as individuals. The older system of lectures to large classes with frequent—or infrequent—quizzes has given way to smaller classes with personal instruction supplemented by the work of faculty advisers, preceptors, personal attention from the dean and other officers. In order to carry out this system most effectively, it is important that the college should really know the student from the day of his admission. The new plan of admission provided an unequaled opportunity for this. We have not yet begun to realize the full value for college work of the information contained in the files of the committee on undergraduate admissions.

The duties of the chairman were to include all that has to do with the relations between the University and the secondary schools. Whether possible or not, it is no longer tolerable that a university should regard itself as an institution apart from the rest of the educational system and careless of what others think or do. Its problems are not the same as those of the schools, but the solution of its problems can not be attained without a knowledge of theirs. In view of these facts it was provided that the chairman should visit the secondary schools, particularly those from which most of our students come, and that he should make himself familiar with their problems and methods and that he should come to know personally the principals and teachers most concerned in preparing the students who come to us.

The duties of the chairman were to include also the special oversight of such students as should be admitted with conditions until such time as their conditions should be removed.

It was not found practicable to put the new plan into effect before October, 1909, so that the students admitted in September of that year came in under the old plan. The first opportunity for the application of the new plan came in February, 1910, when a small number of students was admitted to each of the undergraduate schools. In September, 1910, the new method had its first real trial. The results, particularly in Columbia College, where it was most effectually applied, were very gratifying. The general quality of the class proved to be distinctly higher than that of its predecessors, while the number of freshmen admitted was greater by fifty-five than in the preceding year. In 1911 and 1912 the new plan was increasingly effective owing largely to the more willing and intelligent cooperation of the schools and partly to our longer experience in administering it.

In passing upon applications for admission to the several undergraduate schools it was obviously impossible for the whole committee to pass upon each case. A large proportion of the cases are incomplete until the returns from the September examinations have been received. Many of these do not reach the committee until the day before the opening of college. The chairman alone is informed regarding cases in each of the schools. The committee is therefore divided into sub-committees, one for each undergraduate school of the University, each sub-committee being made up as a rule of the chairman and the members of the committee from that school. The requirements are administered uniformly in the different schools in so far as the peculiar circumstances of each school permit. When the question is one of admission to a technical school, the decision upon a doubtful case is not necessarily the same as it would be for admission to the college. In the former cases there are certain specific requirements which outweigh in significance others which might be more important in the latter. The fact that ordinarily a student may not enter a professional course in the middle of the year may sometimes justify giving a trial to a student who would not ordinarily be admitted to a non-technical school without an additional half year of preparatory study. Moreover, the record in both examinations and in school seems to be a little less valuable as an index of success in a professional school than in a school of liberal arts. In the former a student with an excellent record may fail badly, while one with a very defective entrance record may succeed from the start. In such circumstances it is obvious that the personal factor is highly important and that errors on the part of the committee are likely to be of more frequent occurrence. Again, the crowded condition of a school might make it desirable to exclude a student even if he had a record which might gain him admission to a school which was less crowded and where the instruction could be more individual in character. The experience of the committee would seem to show also that as a rule it is unwise to admit young women with handicaps which might easily be overcome by properly selected men. The extra burden of entrance conditions is apparently much more serious for the former than for the latter. But in these cases, also, individual differences should be carefully considered before a decision is made.

On the whole our committee and our sub-committees have been little hindered by those differences of opinion which are doubtless almost universal in such committees. There are those in every faculty who seem to regard stated entrance requirements as a dead letter and who would almost be willing to admit even those who, though their records show nothing but failure and futility, are "sure that they could do college work if they once had a chance." Aside from the injury done to the schools in their attempt to maintain proper standards by admitting students whose preparation is known by their associates to be insufficient, aside from the injury to the reputation of the University, the hindrance to the work of college classes and the almost inevitable lowering of standards resulting from the presence of those who are badly prepared, there is a manifest injustice in admitting a student and accepting his tuition fees if his preparation is obviously inadequate. It would, indeed, be better occasionally to err by excluding a student who might prove on trial to be able to do the work, since there are always places where he can gain admission. However, this course is not necessary in the case of any student who has satisfactorily completed his secondary school work, since it is possible for us to arrange for him a program in the extension teaching department which, if satisfactorily completed, may assist him to gain admission at a later date with credit toward his degree for work of college grade done in extension teaching.

Opposed to those who feel in no way bound by announced requirements, there are in most faculties those who are strict and literal constructionists, unable or unwilling to go beyond the mechanical enforcement of formal regulations, forgetful that these exist for the sake of the University and of the student and not as an end in themselves; that there is no general scheme which will fit every one and that the exceptional cases are often the most important. As a committee we have believed thoroughly in handling individual cases as if they were such. This is often a matter of extreme difficulty in view of the many considerations which must be weighed and balanced. There is no calculus for such operations. The ascertainment of the facts and the proper application of principles present a new problem in each case, a problem which can not be solved without careful study.

The question which arises perhaps most frequently in passing upon such cases is that of admission with conditions. It may be said at once that if there were complete adjustment between school and college, if all subjects were well taught in school, if every student knew several years in advance to what college he would go and could make sure of including all required subjects in his curriculum, and if every student worthy of higher training were reasonably good in all the subjects required for admission, there would be little excuse for admitting students with conditions. Short of this it is undoubtedly true that to admit no students with conditions would be to exclude a considerable proportion of those best worth a higher education. With our system it is possible to decrease materially the number of such conditions and to judge more accurately in doubtful cases. Our prospective students select their secondary school studies more intelligently and good school records often serve to give credit in a subject in which the examination grade is doubtful and might otherwise be held insufficient to give the student credit. There are still many cases, however, in which the secondary school studies do not quite fit the stated requirements, or in which some subjects are badly taught, and there are candidates who have a high general record and first-rate ability who are nevertheless deficient in certain subjects. In such cases if the student has finished a full secondary school course which is generally satisfactory, if the weight of evidence goes to show that he is ready for college work, it would be a manifest injustice to require him to spend another year or even a half year in a secondary school, unless his deficiencies included subjects of vital importance or covered a considerable proportion of the entrance requirements.

On the other hand, we have realized fully the dangers which lie in a lax and careless administration of the stated requirements. In particular we have regarded the admission with conditions of students who have not yet completed the secondary school course as, in most cases, thoroughly bad. If we are to work with the secondary schools in the interest of proper standards in both school and college we must not countenance the desire which is so often found in young students to get into college and through college without completing their work in the lower schools. If a student has met our stated entrance requirements with high grades so as to be able to enter without conditions, he should no doubt be admitted, but the cases in which a student can do that without having completed the full course in a secondary school are exceedingly rare.

What is true of the secondary school course as a whole is true also of individual subjects. It occasionally happens that a bright student from a good school takes an examination in a subject before he has completed the study of it in school. In such cases we now issue no report of the examination and we require the student to be reexamined after he has completed his preparation in the subject. This policy has appealed strongly to the better schools and has helped to assure their cooperation in the maintenance of high standards.

Granting, then, that the admission with conditions of a student who has completed a satisfactory course in a secondary school, may in many cases be justified, the question still remains as to the circumstances under which it is justified. The mechanical method of handling such cases usually proceeded by eliminating all those who had fewer than a given number of units and by admitting all others. This mode of procedure was obviously bad. A candidate who has a high record in ten entrance units, if these include the subjects prescribed for admission, is a more desirable student than one who has even the full entrance requirement with the lowest acceptable record in each subject. Moreover, the reasons for deficiencies should be carefully considered. The character and aptitudes of the student and the quality of the teaching should be taken into account. Sometimes the student's secondary institution has not fully covered the entrance requirements. This may be owing to the fact that his school includes in its program of studies a number of vocational studies, whose educational value has not been sufficiently established to warrant their inclusion among the subjects accepted for admission at the expense of subjects which have been accepted in the past, so that the student is unable to offer the full entrance requirement. If the amount offered would fall far short of the full requirement the situation would be very different from one in which the deficiency was small.

Sometimes a deficiency is due to the fact that the time devoted by the school to a given subject is insufficient to give adequate preparation. In all such cases the total record of the student, not simply his examination grades and his school grades but everything that has a bearing on his case, must be considered. A good student from a poor school is a more desirable addition to our college body than a poor or mediocre student from the best school. For various reasons circumstances may be adverse in a school either in certain subjects or in all of them. The circumstances which lead to incomplete preparation are innumerable. Only careful study of a case can determine whether they were such as to make it advisable to admit the candidate, and even with the greatest care the judgment of a committee is certain to be mistaken now and then.

By way of illustrating the actual working of the method in doubtful cases a few instances may be presented. In 1911 a candidate for admission from a very good high school presented himself for examination. His grades were above the doubtful zone in only four subjects, representing seven entrance units. In the remaining examinations his grades were lower, three and one-half units being at the extreme lower limit of the doubtful zone. His school grades were fair but not high. His principal and several of his teachers had written to us before the examinations testifying that his standing in regular class work was very good, but that owing to extreme nervousness his record in examinations was always much lower and did not furnish an adequate basis for judgment; that he was diligent and earnest and of rather more than average ability. In view of these facts he was given credit toward admission in the four additional units in which his grades were best, the total of eleven units covering the English, mathematics and science prescribed for admission for candidates for the B.S. degree. He was admitted with conditions amounting to three and one half units in the subjects in which his examination grades were lower. His record in college for three half-years has been entirely satisfactory.

In a second case the candidate received grades above the doubtful zone in six and one-half units, of which only four and one-half were in prescribed subjects. His doubtful grades were distinctly lower than those of the former candidate. His school record was good, but in view of his apparent weakness in English and other prescribed subjects he was advised to take courses in extension teaching. A program was arranged for him including a number of courses parallel to college courses in addition to those designed to supplement his preparation at its weakest points. He made an excellent record, removing some of his conditions by proficiency in courses of college grade and others by examination. He was admitted to college in February with credit toward the degree for the collegiate courses which he had completed. His credit for the half-year's work was a little less than the average attained by members of the freshman class, but by the end of a year's good work in the college he had made up what was lacking.

A third case was similar to the second. A student came from a western high school—one which had not previously sent us any students. His examination grades were above the doubtful zone in three units only. His school record was good, but most of his examination grades were distinctly low. After a half-year in extension teaching he was admitted to college, where he has made an excellent record and is now fully up with his class.

In many cases it is difficult to draw the line, but when the candidate desires to enter Columbia College, a half-year in extension teaching does not mean a serious loss of time. The situation is different when admission to a technical school is in question. Usually in such a case a year's time would be lost if the student were not admitted directly to the school.

On the other hand, the professional work usually absorbs almost all of a student's time and energy and it demands special fitness for certain kinds of work. If the candidate has given evidence of such fitness, he is sometimes admitted with more conditions than would ordinarily be permitted to a college student. Experience has shown, however, that the utmost care is necessary in passing upon such cases and we have frequently been mistaken in our judgment of them in the past.

Admission with conditions is not desirable in and of itself, but aside from the flexibility which it permits and the justification which it finds in its usefulness as a means of overcoming the defects enumerated above, it has a further point of interest in that it is almost the only means presented by most systems of admission for a recognition of quality in passing upon the entrance offering of the candidate. Even in our own system it is very important in this connection. It is said that there are colleges where the student who presents the full number of entrance units is admitted even if his record in every subject is the lowest which is accepted, whereas a student who falls short however little is rejected no matter how excellent his record in the subjects which he does offer. There should be some way of taking quality into account as well as quantity. We are now able to do this in passing upon individual subjects offered for admission, as well as in passing upon the cases of those who can not receive credit for the full number of entrance units. But there is urgent need for some more thoroughgoing method of doing this. The plan presented in 1912 contemplated assigning credit for additional entrance units to those candidates whose records in the subjects prescribed for admission should be exceptionally high, the extra entrance units to be accepted in lieu of some of the elective entrance units. According to this plan a candidate for the A.B. course with high records in English, Latin and elementary mathematics need offer only two elective units in other subjects. It was hoped that this plan might make it possible for schools to simplify somewhat the programs of study pursued by candidates for admission and to put more emphasis upon the subjects usually regarded as most important for college entrance. The school men who were consulted approved the principle, almost without exception, but were of the opinion that the uncertainty of the final result would deter most students from concentrating upon the central subjects. And quite naturally the schools would be averse to introducing anything which would complicate further the making up of individual programs of study without the assurance of a gain affecting a considerable proportion of their pupils. A measure for giving some recognition to quality and eliminating candidates who obtain only minimum passing grades has lately been proposed at Harvard University. It provides that candidates who do not obtain grades above D (their lowest passing grade) in a certain number of entrance points shall not be regarded as having fully met the requirements. This plan has much to recommend it and may well be worth trying.

There is a class of cases in which the merits of the individual applicant have usually been considered. I refer to those variously known as partial course students, special students or non-matriculated students. This is a provision for persons of maturity, ability and serious purpose who wish to specialize in certain fields or who have not followed the usual route through the secondary schools. The extraordinary abuses to which this provision was at one time subject in a great many colleges were caustically commented upon in the third annual report of the Carnegie Foundation for the Advancement of Teaching. So far as we are concerned, this method of admitting students has been employed since the organization of this committee only for the benefit of such students as might properly, in our best judgment, be entitled to consideration. We no longer have even applications for admission from utterly unprepared candidates whose sole reason for applying for admission as special students was their total inability to meet the requirements for regular admission. The courses in extension teaching have been of great service here. When the number and scope of such courses has been a little further increased, there will seldom be occasion for the admission of non-matriculated students to Columbia College.

In the professional schools the situation is different. In such schools applications for admission as special students are ordinarily considered only when the candidate can offer, in addition to maturity and general fitness, a certain amount of practical experience in the profession represented by the school which he wishes to enter. In general we believe that although our judgment in individual cases may be mistaken, the admission of non-matriculated students is administered for the best interests of all concerned.

What personal factors should be considered in passing upon candidates is an interesting and important question. It can be fully answered only after a careful determination of the aims of the college or university. The factors ordinarily considered include only those which are intellectual and those which are in the narrow sense moral. If a college were devoting itself to training men for leadership demanding public spirit and unselfish devotion to the common good, as well as integrity and trained intelligence, it is conceivable that the promise of those other qualities should also be considered. The problem is a difficult one and deserves careful study.

(*To be concluded*)

WHAT BESIDES THE LANDSCAPE?*

A SMALL college, with the best teachers and scholars that high salaries can procure, abundant opportunity for intercourse between students and professors, a circumscribed elective system, and a curriculum devoted to the liberal arts and sciences,—these, we Amherst men like to think, are the unique features of "The Amherst" or at least of "the small college, idea." They are also coming to be, unfortunately for our pride, the chief features of instruction in Columbia and Barnard colleges, the undergraduate departments of Columbia University, an institution which, it has been one of our capital articles of faith to believe, stands at the opposite pole in educational theory and practice from Amherst. The faculty of Columbia College, however, is composed of the best men procurable drawn to Columbia from smaller institutions, as Amherst too well knows, by the attractions of higher salaries, larger facilities for research and greater inspiration to scholarship, and by the interests of a metropolis. Students meet these men in small classes and in an increasing number of ways outside of class. In its curriculum Columbia has not been so far swung to the extreme of the elective system as Amherst, and preceded Amherst in the movement toward a more rational grouping of the subjects of study. In short, Columbia College has all the distinguishing educational features of the so-called small college like Amherst in an equal if not a greater degree of excellence. These are facts which come home with disquieting effect to the Amherst man at Columbia who wishes to be loyal to the usual country college prejudices; and they are not less disquieting when the same prejudices are repropounded to him in Amherst by Amherst enthusiasts. For Columbia has her enthusiasts no less than Amherst. They claim that Columbia University, by reason of its greater wealth and greater opportunities for scholarship, is in a position to attract to the faculty of Columbia College the ablest men from all the smaller institutions of the country, that these men naturally seek to make Columbia College the best possible instrument for undergraduate education, that if the so-called "Amherst" or "small college idea" is the best possible plan for undergraduate education, Columbia College will, of course, adopt that plan, and carry it out more perfectly than Amherst or any other country college is able to do. The logical result will be to attract the most serious students to the university college, which will then become the only considerable seat of higher learning, and to relegate the country college like Amherst to the position of a fitting school, perhaps something like Andover or Exeter, or of a kind of polite finishing school for young gentlemen who are going into business, analogous to similarly named institutions for young ladies who are going into society. Yet even if this should not be the case, and if the country college should be able to compete with the facilities of the university college, the latter will still have the incalculable advantage of being in a university. The Columbia undergraduate has the same advantages of a large faculty and small classes which Amherst boasts of, and in addition he has the university library, the graduate and professional schools, the lecturers of international fame, the multifarious opportunities for learning of the greatest city of the hemisphere, all to give zest and strong meat to the hunger for knowledge. It is a huge hive of learning, to quote one enthusiast, where the drones are kicked out, and where the workers have that greatest incentive to work, the impetus and industry of the hive. The Columbia undergraduate, therefore, gets from Columbia the best "small college" that brains and money can create plus the advantages of one of the greatest universities of the world. And what does Amherst offer in place of this? Merely a good "small college" at best, and—a beautiful landscape. Nothing else.

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What besides the landscape has Amherst to offer as opposed to the preponderating attractions to learning of the university college?

The Amherst undergraduate will at once reply, "college life." The formula usually is, "Columbia is a great university, of course, but it's in a big city, and so they can't have any life there." Now if by "college life" is meant a certain delightful potpourri of football, junior proms, house-parties, glee-clubs, managerial competitions, bonfires, cotillions and all similar devices of youth at college for the consumption of leisure, and if by Amherst's superiority in this respect is meant its superior appurtenances in the way of playgrounds and clubhouses for the conduct of these pleasures, with the added advantage of less distraction from them by the demands of study, the Columbia enthusiast is willing to give over the argument. He admits that these things are always pleasant, often profitable, but that with the increasing sense of responsibility in college trustees and faculties for the proper administration of public funds, these pursuits will be permitted less and less to interrupt the business of a self-respecting institution of learning, and will become rather the distinguishing features of that polite finishing school for young gentlemen which, he maintains, the country college is doomed to become. Yet if the Columbia enthusiast be willing to admit that this statement may do injustice to a part of college which has more intrinsic value than his words imply, he is able, if he cares to do so, to find evidence that the Columbia boy has just as many opportunities to enjoy himself, just as many "student activities" to engage him, always providing that he wants them, as the Amherst boy. Perhaps there is this difference between them, that while the latter thinks, when the faculty will let him, that he is having a better time than any one else on earth, the Columbia undergraduate, not so provincial, thinks, if he thinks of it at all, merely that he is having just as good a time. And does this not point to the only test of the relative merits of college life at any two colleges? If the Columbia undergraduate finds his college course as full of the joy of youth as we find ours at Amherst, how can we say that our college life is any better than his? Still there is our "college spirit," a more vigorous thing in us than elsewhere, we are sure. This "college spirit," however, if I may quote another recalcitrant Columbia enthusiast, although usually admirable when it does not lead its devotees to folly, is nevertheless in every college the same thing, and by every college is thought to be unique to itself. Like the ghost of Hamlet's father, it works i' the earth so fast, it is likely to turn up anywhere and bid us swear obedience. Of course the Amherst graduate at Columbia is scornfully glad that he was not an undergraduate at the university,—college spirit makes him so,—just as the Columbia man,—college spirit again at work,—is obstinately satisfied with his lot at Columbia. Let us not permit the golden haze of college days to obscure our common sense. Whatever the accidental variations due to differences in time and place, "college life," "college spirit," is the same thing in college or out, in city or country, wherever young men meet, make friends and band together for the enjoyment of their youth. The Columbia enthusiast pooh-poohs our pride in the forms which this life assumes at Amherst. If our college, to be sure, allows such incidental pleasures and activities to consume more of the time of its students than Columbia does, he is satisfied, but maintains that the only essential difference is that these pursuits have for their adjunct at Amherst the country, at Columbia the city, a place which it is strange doctrine to declare barren of activity or pleasure. In other words, the only unique attraction of Amherst by Columbian estimate is, again, the landscape.

This is something which we are at first unwilling to admit. Yet if the importance of college life and if our title to a superior kind of college life be both impeached, and if it be true that the university college can become, if it is not already, a "small college" equal or superior to Amherst in respect to curriculum, faculty and opportunities for the student to come in contact with the faculty, perhaps the landscape is after all our best attraction. Perhaps, too, the landscape is sufficient, but we must not place our sole reliance upon that. A more important question first to be settled is whether the university "small college" faculty is in the nature of things bound to be superior so far as undergraduate teaching is concerned. It is claimed that this cannot be doubted, because the university college takes for its faculty a selection of the best men of all the smaller institutions. There remains for the latter, consequently, only those older men who have failed of promotion to the university and the tyros who are being tried out at the country college's expense for the university's ultimate benefit. The country college cannot change this condition by raising salaries, because such increase will serve merely to keep faster hold of the weaker men, and can never be great enough to offset the various attractions of the university for the stronger. This logic seems incontrovertible. But perhaps the process works less smoothly than the logic. What, for the purposes of undergraduate teaching, is an able college professor? A scholar he must be above all things, but he is not made a scholar by fame or royalties from text-books, or by the number of his publications in scientific journals, though these things are all important to scholarship. The true scholar is he who, however little knowledge he has to begin with, never for a moment stops seeking for more. When he finds another man with less knowledge than himself to whom he can make a gift out of his store acceptable, he becomes a teacher. If the college professor is learned enough to march in the van of his pupils, if he is scholar enough ever to keep pushing ahead into the unknown, if he is teacher enough to make his pupils follow him, his power will be as great before the world takes note of him as after, and he will not lose it though he remain unnoticed to the end.

Now the logic of the university enthusiast implies that the ablest men on the country college faculties will infallibly be detected by the university. Why then, we may ask, are there obscure old professors in the country college to whom country college graduates continue to look with more reverence than to many a more famous scholar they have known elsewhere? The same logic implies that the ablest men of the country college will invariably go, when asked, to the university. But are there not enough instances to the contrary in the past to make us reasonably skeptical about the universality of such a rule? It is also implied that the country college suffers in the process of trying out the tyros for the university. But again are there not grounds for thinking that the country college is likely to gain as much by the fresh enthusiasm of its young men as it loses by their inexperience? Moreover, we must believe that the country college is not suffering during the years that these young men are exerting their best abilities in its behalf in order to gain that university promotion which is said to be the sole reward of merit. In short, all that we can say with complete confidence is that the members of the university small college faculty at its best, as compared with the members of the country college faculty at its best, are bound in the nature of things to be more famous but not necessarily more efficient as undergraduate teachers.

There are pitfalls at the feet of both, of course. At the university the fascination of research may, perhaps, carry a professor so far from the world of the college boy that his words, be they never so learned, become to the student as the rustling of dead leaves. At the country college, on the other hand, the ease, the seclusion, "the ouside activities" of country life may so lull the professor's desire ever to be learning that, although knowledge to be sound must be constantly renewed, he utters old knowledge unrefreshed, and becomes as a false light which should long since have been left astern. Nevertheless we may have faith in the small college faculty in country or university, that it will not cease to kindle knowledge; and the kindling, not the repute in which the tinder stands, is the main thing after all.

As it may be no deprivation to an undergraduate not to study under the university college faculty, it need be none to lack access to the other university opportunities for study. A square meal satisfies hunger no less than a banquet. A country professor can furnish out a square meal of learning from a small library and cheap texts suitable to the needs of any boy. Only let him give the student enough to do, and he will not miss the vast library and the visiting professors from Germany. It is not the undergraduate who needs these things. Even the Columbia undergraduate feels this if we may judge by the preponderance of older faces in the audience at the lectures of distinguished foreigners. We must not shut our eyes to the importance of the university; but we must not, on the other hand, let our enthusiastic pre-occupation in any one institution, nor our passion for logical system, blind us to the fact that when we set sail upon the enterprise of learning we do so in the first ship that sails from the nearest port. It is the spirit of a man, not the kind of vessel which makes the voyage possible. It is the spirit of men, not institutions nor the fame of men, which educates. It cannot yet be said that Mark Hopkins and any callow boy may not still find each other at two ends of a log up in the backwoods. As long as that is the case, the country college need not cease to kindle knowledge if it will but provide Mark with a log. Eventually Mark and the boy will make each other famous. When that happens, the country college must not forget that the university may then take Mark to the city, and that the university is fully able to set up as good a log down there as any in the backwoods. The university, on the other hand, should not forget that Mark will put in some good years of his life at the end of his log in the backwoods, and may never leave it after all, unless the powers of good judgment and persuasion in university presidents reach a hitherto unattained pitch of perfection. This faith we shall not lose until Amherst graduates are much fewer among the ranks of scholars young and old than they are at present, or until Amherst has definitely assumed the function of a polite finishing school for young gentlemen.

Though we may thus persuade ourselves that Amherst can give any undergraduate enough to learn, we must not think that mere task-setting is sufficient. We cannot thus easily dismiss the claim that the university gives its small college something else of great value which Amherst has not to give. What is this thing of value, and what does Amherst need to take its place besides the landscape?

It has been said that learning is an enterprise into the unknown. Now the continuance no less than the inception of that adventure depends upon the enthusiasm of the adventurer for his quest. He has caught the passion for going to sea; he has been thrilled and lured by some glimpse at the mystery of unknown truth. When the labor of the voyage, when the grind of study, tends to wear the passion out, or when the sirens of business and pleasure seek to lull it to sleep, it must be renewed within him. When the flesh grows weary over learning, something must fortify his soul with reminders of that mystery of unknown truth the longing to know which first led him forth upon the voyage. Otherwise he ceases to learn. First to get this desire ever to know nearer to truth, then to keep it, is a necessity which the scholar can never outgrow. He seldom thinks or talks about such a desire. He cannot turn it off and on at will. Sometimes it vanishes before he is aware, like snow in spring. Moreover, he almost never names it precisely. Perhaps we ought to call it "living in the fear of the Lord." At Columbia we do call it "feeling the inspiration of the university." Here is a gigantic organization, myriads of students, hundreds of scholars from the world over, vast halls of study, laboratories and libraries, prosecuting the enterprise of learning at a ten-thousand-man-power rate.

The machine is so mighty, its movement so confident, so irresistible, apparently so important, that it sweeps the individual along with it upon its tremendous adventure. If he could stop to analyze sufficiently the effect upon himself, he might ask something like this: "Whither can so great a ship be bound?" The end of the journey, the mystery of unknown truth being thus brought before him for the first or for the hundred-and-first time he would ask, "And what is this mystery?" So would another soul be fired with the desire to learn. This vaguely is the unconscious process; but certainly what the Columbia man says about it when he says anything is, "Everybody else is working so hard I cannot help working too." Yet if all this still seems too fanciful for credence, the indubitable fact remains that the student in the small college of the university has a great opportunity to be inspired to learning by the power of example and that he unmistakably behaves as though he profited by the example.

When, therefore, the Columbia enthusiast demands "what besides the landscape can Amherst offer in place of this great inspiration of the university?" the Amherst man, especially when he is himself caught by the impetus of the university, at first feels that in truth Amherst has nothing but the landscape and that the landscape is a poor substitute. It may do very well for a finishing school, but for an institution of learning it seems superfluous. Further reflection, however, leads us to question this. May not the Amherst landscape itself provide to the men of Amherst College who are seeking to learn an inspiration comparable to that provided to its students by the university? I do not mean by this anything remotely connected with an easy, complaisant, sentimental, provincial devotion to *alma mater*. I am aware that it is easy to smile and say that the landscape is more likely to inspire the healthy boy with the desire to run out and play rather than to stay shut in his room and study. I am even aware that there have been some indications in the conduct of Amherst undergraduates to confirm this opinion. Perhaps the contrary view here expressed may be merely a rare personal experience; but it is worth expressing, if only to ask why it should be rare. Let us first, however, at risk of repetition, understand the matter clearly. It does not seem possible that there should be only enough good scholars and teachers in the country to supply the universities. Let us pray that such a calamity may be long averted, and that there will be enough and to spare. If then the universities do not absorb all the good men nor all their lifelong energies, there seems to be no reason why any smaller college should not also have efficient scholars and teachers if it so desires. With such a faculty Amherst needs nothing else besides the landscape.

We say that every learner is like a person who sets out upon a voyage of discovery, and I have tried to suggest how in the course of his learning the student requires that the passion to learn be constantly refreshed. Unless he be stirred again and again by the sense of that truth never to be known, yet never to be utterly despaired of, that

> "sense sublime
> Of something far more deeply interfused,
> Whose dwelling is the light of setting suns,
> And the round ocean and the living air,
> And the blue sky, and in the mind of man,"

the ardor for the quest, the vision having failed, will perish within him. I believe that the vision of Amherst College is such a vision to keep alive in the hearts of scholars the passion for more light of truth. We feel this when we so frequently say that Amherst is *the* place for a college. We are not yet willing to surrender the faith that it is good to retire to a hilltop the more clearly to hearken to the still, small voice. The university man himself felt this who once told me that whenever he rides into Amherst from the west and sees the chapel tower rising above the trees he is thrilled with the renewed vision of what college really tries to be. This merely means that college is a place in which we give up everything to seek for truth. In a perfect world, or as we say, in an ideal world, we should set aside wooded hilltops that have fair prospects for such a purpose. But Amherst is such a place in this imperfect world consecrated to such ends. For once on earth we have caught a glimpse of something eternally fit, something true. It is the place for a college, and the college is there. Too few of its members, to be sure, make the quest of truth their business; such is human error. But the fit place for the quest remains, and this vision of one slight fragment of the perfect order is all that the scholar should need to keep him fired with the desire to know more. There Amherst College stands with all her faults in a beautiful landscape, and the vision of a perfect Amherst stands in the minds of her sons. The faults of the actual are not enough to dim the vision of the perfect.

Dr. Johnson once said, "When I find a Scotchman to whom an Englishman is as a Scotchman, that Scotchman is to me as an Englishman." The present writer's only purpose has been to try to show a little how Amherst looks from the outside, though still from within the profession of study and teaching, and to take to himself new faith in Amherst in the face of grave criticisms, uttered or implied, which come to all country college graduates at a university. We must not let our pride in the power of the university as a great engine of intelligence so captivate us as to make us think that other men may not do great things with less complicated instruments. We must not let an ofttimes blind and slothful loyalty trick us into not seeing that no college can be unique in its essentials, and that all have something to learn and to fear from rivals. We may kindle the fire of knowledge upon many altars; the altars differ, the fire is everywhere the same.

WILLIAM HALLER

ECCLESIASTICAL MANUSCRIPTS AND BOOKS

THROUGH the liberality of Mr. J. Pierpont Morgan and others, the University has recently been enabled to give two remarkable exhibitions illustrating the history and liturgy of the Church, the occasion being the meeting in New York of the General Convention of the Protestant Episcopal Church.

In the exhibition room of the University library were shown books and documents illustrating the history of the Episcopal Church in America, especially during the Colonial period, including one hundred and twenty-four views of churches, one hundred and nineteen letters and portraits; altogether over four hundred books, manuscripts and historic articles were loaned by the trustees of Trinity College, the Vestry of Trinity Church, the General Theological Seminary and others. Mr. E. H. Virgin, the librarian of the Seminary, arranged and prepared a descriptive article, which was printed and distributed, and this added much to an understanding appreciation. The exhibition was especially rich in memorials of Bishop Seabury, including his miter and surplice as well as numerous manuscripts, but all of the early bishops and many of the later ones were represented by letters and documents, while a collection of twenty-five photographs and autographs of bishops who were graduates of Columbia was contributed by Dr. Marcus Benjamin. Two cases were devoted to the work done in the Colonies by the Society for the Propagation of the Gospel, and by the Rev. Thomas Bray, one of the founders of the Society, this material having been brought together by Dr. Austin B. Keep, and the early connection of Kings College and the Colonial Church was effectively illustrated by the letters and manuscripts of Dr. Samuel Johnson, its first president. Another case of especial interest was devoted to the Church in the Confederate States, containing journals, prayer books and addresses. The collection as a whole was rich not only in records and chronicles, but in actual tokens of lives and labors.

The Morgan exhibition, held in the Avery library, was of extraordinary interest and importance. This was a loan exhibition of one hundred and twenty illuminated manuscripts and of three hundred and fifty printed books from the library of the late Mr. J. Pierpont Morgan. Mr. Morgan had before his death personally arranged that this exhibition should be held, and all the resources of his library were placed at the command of the University. The process of selecting from its wealth of riches such works of the greatest general interest as would also best illustrate the history and liturgy of the Church, and of preparing a description of each occupied a large part of the time of Professor Simkhovitch for several months, and only limitations of space prevented the exhibition from being still more comprehensive. A catalog of the books and a pamphlet on the history of the Prayer Book which were printed for distribution disclosed the range and distinction of the printed books, and as an adequate catalog of the manuscripts was impracticable, the loss was supplied in a measure by a carefully compiled descriptive card accompanying each work. As a whole, the exhibition has probably never been equaled for the rarity and beauty of its contents.

Only a reference can be made here to some of the more remarkable features of the collection. Of the books, the paper copy of the Gutenberg Bible, pronounced the most perfect in existence, and the Caxton Prymer on vellum, the first liturgical book printed in England and the only copy known, were perhaps the most important, but the Prayer-book of Queen Elizabeth, the Bibles once belonging to Charles I. and Charles II., the first edition of Bunyan's Pilgrim's Progress, and the early American Bibles and Prayer-books were only a few among the many volumes that possessed extraordinary and varied interest. The most famous in a case of jeweled book-covers, dating from the seventh to the thirteenth century, was the great Lindau Gospels from the Ashburnham collection, probably the finest example of such work in the world. In another case were two letters and a book on theological subjects in the handwriting of Luther, Lucas Cranach's famous medallion portraits of Luther and his wife, and autograph letters of Eber and Melanchthon, personal reminders of the Reformers.

But the illuminated manuscripts were the most conspicuous portion of the exhibition, and they formed a memorable exhibition in themselves, whether one examined them collectively, as tracing the progress of the art of illuminating from the ninth to the sixteenth century, or whether one simply looked at them individually for their splendor of execution. The most important manuscript was the sixteenth century Offices of the Virgin of Giulio Clovio, regarded as it is as representing the highest point that the art of illumination ever reached. Vasari, in 1550, describes it, "seeing that it is not every one who can obtain a sight of this work," and Humphreys in England in 1849 writes that "even a sight of it is a privilege obtained by few," and, one may add, a privilege that he himself did not have. The covers of this manuscript are traditionally the work of Benvenuto Cellini himself, though Plon in his monograph is inclined to credit it to Cellini's pupil, Manno. What Clovio's masterpiece is to miniatures generally, the Windmill Psalter is to English miniatures. The grace that characterizes English thirteenth century work as a whole is seen in this work, added to an entirely harmonious scheme of color and design, and all glowing with the rich gold that was the special glory of the English artists. A good example of the twelfth century English work was the Huntingfield psalter, although the gold had flaked off in parts. In the middle of the thirteenth century appeared the spirit of playfulness and satire that set rabbits, dogs and monkeys to play in the margins surrounding serious pictures. The thirteenth century French Bible in two volumes showed also the diaper-work, lozenges of burnished gold and brilliant colors, that began in this century. An early thirteenth century Apocalypse with eighty-five tinted pages was an interesting case of adaptation of manner to matter; the visions that passed through the artist's mind were put down quickly and without delay. One wondered, as one looked at the work of these Apocalyptic artists, whether the monsters that they created are not, as Leslie Stephen says, "proofs that their creators did not see the human being, but only his outside." Throughout the fourteenth and fifteenth centuries the borders became more elaborated, and a beautiful Book of Hours of the same school that produced the Bedford manuscript in the British Museum showed the complicated delicacy of the work. Three manuscripts from the school of Jean Foucquet testified to the genius of the greatest of all the French miniaturists, and a Book of Hours that Jean Bourdichon executed at the very end of the fifteenth century took the art in France to its close; the famous Book of Hours that this artist painted in 1502 for Anne of Bretagne has been called "le testament de la miniature française expirante." The Book of Hours that Jean de Paris worked out for Anne about 1492 was among the manuscripts exhibited.

For Flemish illuminators, also, the fifteenth century was the age of gold, and nothing could be more perfect than the miniature of the Madonna of Simon Beninck of Ghent. The case containing numerous examples of the school that produced the Grimani Breviary held one's imagination for long, and the reality of the landscapes of these Flemish artists gave it an air of great naturalism and true painting. The three Spanish manuscripts with their yellow, red and black looked barbaric, and between them and the delicate grisaille work of some of the French and Flemish manuscripts there was a remarkable contrast. One of the most interesting things brought out by the exhibition was the kinship of tone and design between early stained glass and the coloring and treatment of the miniaturists. The theory of ecclesiastical decoration seems to have been thoroughly, and almost definitively, settled by these medieval artists, and both workers in glass and workers in embroidery followed the lines which they marked out. But the history of the art of illumination is a record of a double transition, on the one hand from the nameless monk to the professional miniaturist of the fifteenth century, and on the other, as Roger Fry says, "from the expressive symbol to the complete realization of actual appearances." The inspiration of devotion loses its strength, or finds other methods of expression; the printing press comes and the spontaneity this of art passes. One left the exhibition with a great regret that for this generation there should be but appreciation, while the glory of achievement has rested with another age.

ROGER HOWSON

JOHN GREEN CURTIS

M.D. 1870, LL.D. 1904

WHEN four days before the opening of the present session of the University Emeritus Professor Curtis passed away, Columbia University lost one of its loyal officers, the College of Physicians and Surgeons one who had been its tireless servant, and American physiology one of its most scholarly representatives. He was a man of a lovable personality, of a superior culture, always the gentleman, a lover of high thoughts, a follower of noble ideals, a hater of sham and pretense, generous to others, and considerate of others' shortcomings.

Dr. Curtis came of cultured English stock, which settled in Rhode Island. He was born in the city of New York, October 29, 1844. Sons of the same father were his full brother the late Dr. Edward Curtis, formerly professor of materia medica and therapeutics in the College of Physicians and Surgeons, and his half brother, George William Curtis. He took at Harvard his A.B. in 1866, and his A.M. in 1869. His degree of M.D. he received at the College of Physicians and Surgeons in 1870, when the school was only nominally a part of Columbia. The University gave him its LL.D. in 1904. Even before receiving his medical degree he was appointed a junior assistant physician at Bellevue Hospital and he rose through the intermediate grades of senior assistant and house surgeon, to that of attending surgeon, which he held from 1876 to 1880. Immediately upon his graduation he joined the teaching staff of the medical school as assistant demonstrator of anatomy. He then became successively a demonstrator of anatomy, an adjunct lecturer on physiology, an adjunct professor of physiology, and from 1883 to 1909 served as professor and head of the department of physiology. He retired from active university life to an emeritus professorship in 1909, having been in the continuous service of the University for thirty-nine years. After his retirement he spent much of his time surrounded by his books at his

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country home at Chatham, Massachusetts, where he died September 21, 1913, in his sixty-ninth year.

In the early part of his career Dr. Curtis engaged in the practice of medicine, but he was never enamored of it and when he assumed the duties of his professorship, he gladly laid aside medical practice and thereafter devoted his best energies to the interests of the medical school and his scientific specialty. In the general affairs of the school he was an active participant, and the school's records bear witness to his numberless deeds of service and his frequent and wise words of counsel. He had "an infinite capacity for taking pains." From 1876 to 1890 he served as the secretary of the faculty and there he came into intimate contact with the student body. He was influential in improving the character of the instruction and in lengthening the curriculum at first from the conventional two to three, and soon after to four years. He always maintained vigorously the thorough study of the medical sciences as the only adequate basis upon which to build a knowledge of clinical medicine. He was an enthusiastic advocate and an active worker in the plan by which the school of medicine became in 1891 an integral part of the University. For six years he was a representative of the school on the University Council, and for one year he acted as dean of the faculty of medicine.

In physiology Dr. Curtis was a disciple of his predecessor, the inspiring Dalton, who in his turn had been a pupil of Claude Bernard, the leader of the French school. It was Dalton who introduced into America the modern demonstrative teaching of his subject, and he developed at the College of Physicians and Surgeons a small laboratory for the preparation of his demonstrations and the performance of his own researches. In the spring of 1886, when the College was making its plans for removal from Twenty-third to Fifty-ninth street, Dr. Curtis visited for the first time the laboratories of Europe, met the leading European physiologists, and became acquainted, by personal contact, with their laboratory methods. He tarried especially in Leipsic, held by the scientific merit and the personal charm of that great leader of the mechanical school, Carl Ludwig. There Dr. Curtis and the writer met, and a friendship between them began which lasted till the death of the elder and was ever an inspiration and a help to the younger man. That European visit was the beginning of almost annual pilgrimages abroad which continued for many years. Through their aid Dr. Curtis was able to bring to Columbia the apparatus, the methods, and the spirit of the physiological science of Germany, and thus he supplemented most effectively the French atmosphere heretofore existing. His aim was to develop for the first time in the city of New York an adequate and well equipped physiological laboratory, which should serve for teaching purposes and to which any properly trained person could come and find abundant opportunities for research. It was his gratification to have his ideals realized and to see his laboratory become an important factor in the city's scientific life and one of the leading American centers of physiological science. He himself was never a laboratory investigator, but he was wise in knowing what such investigators needed and he was content to provide what others might use. He thus made American physiology his debtor. He was furthermore one of the group of founders of the American Physiological Society.

Dr. Curtis's personal investigations were in the sphere of the early history of physiology. A scholar by nature, a lover of the classics, and one who at the same time appreciated modern science, it was his delight to seek out the origins of physiological conceptions. He acquired a library of the works of ancient and medieval physiological writers which is rarely surpassed, and his pleasure outside his laboratory was in the reading of these books. He was as familiar with the physiology of Aristotle, of Hippocrates and his school, of Galen and of lesser Greek and Latin writers of the early years as is the physiologist of today with the contents of the latest English or German textbook. Illuminating historical lectures were a regular part of his course to his students. In 1900 he gave at the New York Academy of Medicine the Cartwright lectures, choosing as his subject "The discovery of the nerves and of their function." These discourses were a masterly treatment of a subject of which the laboratory man of the present day knows too little. In 1907 he lectured at the Johns Hopkins University "On Harvey's views of the use of the circulation," in which he revealed the fact, hitherto unknown to modern students, that Harvey, the discoverer of the circulation of the blood in the seventeenth century, was, unlike many of his contemporaries, a disciple not of Galen but of Aristotle. Thus the beginning of modern physiology, in this field of the circulation, was linked with the earlier master to the exclusion of him who had dominated all the medieval centuries.

Dr. Curtis was to himself so hard a taskmaster that he was unwilling to give to the world the results of his historical researches so long as he felt them to be capable of improvement. This was almost an obsession with him, and therefore he published little. He has, however, left valuable manuscripts over which he pored for many years and which it is hoped are sufficiently complete to warrant their publication.

To the great body of Columbia officers and to the graduating classes of recent years Dr. Curtis is known best by his impressive administration of the Hippocratic oath at each Commencement to the students of medicine as they presented themselves for their doctor's degree. It is fitting that this brief appreciation end with the words of this oath as it was adapted from its original Greek form by Dr. Curtis himself:

Candidates for the degree of doctor of medicine—

You do solemnly swear, each man by whatever he holds most sacred:

That you will be loyal to the profession of medicine and just and generous to its members;

That you will lead your lives and practice your art in uprightness and honor;

That into whatsoever house you shall enter, it shall be for the good of the sick to the utmost of your power, you holding yourselves far aloof from wrong, from corruption, from the tempting of others to vice;

That you will exercise your art solely for the cure of your patients, and will give no drug, perform no operation, for a criminal purpose, even if solicited; far less suggest it;

That whatsoever you shall see or hear of the lives of men which is not fitting to be spoken, you will keep inviolably secret.

These things do you swear? Let each man bow the head in sign of acquiescence.

And now, if you shall be true to this, your oath, may prosperity and good repute be yours; the opposite, if you shall prove yourselves forsworn.

Frederic S. Lee

EDITORIAL COMMENT

Professor Fullerton's Message

We are glad to present to the American university public in this number of the QUARTERLY the message which Professor Fullerton has already presented in person to the Austrian university public. The grace and dignity of his address, inaugurating the first course of lectures in behalf of the American exchange professorship to the Austrian universities, is a happy omen for the success of the high enterprise. Professor Fullerton is himself admirably fitted to act as an intellectual mediator. Familiar by personal service, extended through many years, with what is best in American university life, a marked contributor by his lectures and his books to the advance of philosophic thought in this country, years of residence in Germany have also made him acquainted with the German point of view in education, in philosophy, in all higher culture. Thoroughly conscious of this point of view, and of its points of contact with American civilization and of such misconception of spiritual America as may be current, Professor Fullerton has chosen wisely in deciding to present to his university audiences an account of American philosophy as representative of the stirrings of American thought and of American universities as the home of the chief stirrings of American science. As his inaugural address evinces, in form of literary presentation as well as in substance of thought, Professor Fullerton will assuredly communicate to our European colleagues and fellow students that spiritual "tradition and enthusiasm for ideal values" which has grown up in America in spite of and along with and because of our devotion to the problems of the national conquest of a continental wilderness.

City vs. Country Colleges

Mr. Haller's essay on Amherst College will interest readers of the QUARTERLY because of the illuminating comparison with Columbia. The writer's conclusions as to the particular question he raises are not clear, but whatever they are, they concern his own *alma mater* rather than ours; for us his comparison of country and university colleges is instructive. The small college in a remote and romantic landscape has been supposed to possess intangible advantages over the large institution set in the matter-of-fact city. As long as the city colleges tried to be country colleges, by subscribing to the educational ideals that find favor with a leisure class, or by cultivating the kind of "spirit" that is generated in small communities, so long have they held second place in the popular imagination. But the city college has now taken possession of its own traditions and its own ideals; in the university around it and in the city around the university it sees no limiting barriers, but inspirations. Its service to all classes is inevitably a challenge to the isolated college.

His loyalty to his *alma mater,* and the intelligence of that loyalty, give Mr. Haller's article a further significance. The criticism he offers or suggests is severe, yet what college would not find occasion for pride in criticism so affectionate and discriminating! Love for the place, and loyalty to a spiritual ideal—if these gifts always go with Amherst's diploma, no criticism can harm her.

American Medical Education

The recent announcement in the daily press of a gift of four million dollars to the medical school of Cornell University and of one and a half million to the medical school of Johns Hopkins University may in a way be regarded as a very practical response to the agitation so vigorously carried on by the council on medical education of the American Medical Association, for the improvement of the conditions of medical instruction. The investigations of this committee coupled with the report of the Carnegie Foundation for the Advancement of Teaching have clearly shown the need of a complete reorganization of the methods of medical teaching in this country. The facts so brought to light have resulted in the closure of a large number of the smaller medical schools, but as yet little has been accomplished in the strengthening of those larger and more important schools to which we must look for the best types of instruction. That the Cornell University Medical College should require the sum of four million dollars to capitalize its deficit and enable it to continue its work as at present organized is an eloquent and practical testimonial to the great cost of medical education, which requires a greater expenditure per student than any other form of technical instruction. The gift to the Johns Hopkins Medical School goes a step further in placing certain of the more important practical professorships, such as medicine, surgery, and pediatrics, upon a strictly university basis, so that the professors in these departments are enabled to give their entire time to the instruction of their students and to research in the sciences to which their respective chairs are devoted. A step in this direction has already been taken by Columbia as regards the chairs of medicine and surgery, and the condition has long existed in many institutions in connection with the teaching of the purely scientific subjects, anatomy, physiology, bacteriology, and chemistry; but until recently few institutions could afford to free the incumbents of other chairs from the cares and interruptions incident upon the carrying on of sufficient outside practice to compensate for the small salaries paid. Until this is done, however, medical teaching will still fall below the standard at present set in Germany, where the small number of medical colleges and the large funds available from the state have permitted this desirable concentration of energy to many medical school teachers. Such munificent gifts as the two above mentioned strengthen the position of every high class school in the country, for they point in most practical fashion to the needs of those institutions that are in the future to educate the type of broadly trained physician which the public is beginning to demand.

The New Medical Curriculum

The growth and development of the science of medicine has been so extensive that it seems hardly possible for the student to cover, except very superficially, the whole ground in the four years which are prescribed for the course of instruction. It is therefore generally attempted to establish a well rounded course which shall approach as nearly as possible the most profitable use of the four year period. The addition of a fifth year has been suggested and adopted by certain schools, but the advantage thus gained is one of quantity rather than principle.

In the College of Physicians and Surgeons it has been recognized for some time that the plan of instruction could be criticized in several respects, especially in that all the work was compulsory, in that the hours of teaching exceeded the legal requirements by a great deal and in that they were badly arranged, leaving only scattered free hours. From this it resulted that no student had any freedom of choice in the matter of his studies—nor could he find time to carry on voluntarily any further studies upon subjects which interested him.

It became clear that while the production of great numbers of average medical practitioners is a creditable enough function of a medical school, the modern world will not rest content that an institution with such an equipment as the College of Physicians and Surgeons and with such a staff of instructors and such a body of good students should stand second to any in the attempt to advance medical knowledge.

A committee was therefore appointed to study the curriculum and suggest a method of revision. The suggestions of the committee which were adopted and have been put into practice consisted chiefly in the reduction of the required hours of study from forty-eight hundred to four thousand, the establishment of a minimal course of prescribed compulsory work which should nevertheless offer a well rounded course lasting rather less than four thousand hours, and third, the offering of many elective courses in various subjects among which the student must choose, in order to complete the prescribed four thousand hours. The faculty or a committee thereof act, under these new arrangements, in an advisory capacity and also determine to what extent the student is capable of undertaking research work instead of elective courses, for it is deemed possible and desirable for certain students to substitute independent investigation for courses of instruction. Indeed, in the fourth year it is arranged that specially qualified students may with certain restrictions substitute elective courses or research work for any prescribed courses. Periods of study were so concentrated that blocks of free time were left for elective work and for independent study.

Great hopes are entertained that this change may have the effect of stimulating the interest of the students in the possibility of actually advancing medical studies. Even though they may accomplish little in this way themselves, it may afford the opportunity for the selection of such interested men for positions in the staff of instructors, so that the body of investigators may be built up from the school itself. Already a difference can be observed in the attitude of these men toward their work. They are no longer merely the raw material in a machine for the production of graduates in medicine, but interested members of an institution whose aim includes the attempt to further medical progress and to discover new facts.

The Cutting Fellowships

At the October meeting of the trustees of the University the gift of a capital sum of two hundred thousand dollars was received from Mrs. William Bayard Cutting, the income of which is to be applied, as the letter proposing the establishment of the fund phrases it, "toward the establishment of traveling fellowships for the benefit of students of high promise in the University." The gift is made as a memorial to the late William Bayard

Cutting, a graduate of the College and the Law School, and a member for thirty-two years of the board of trustees. The desire of the donor, further expressed in the letter containing the proposal of the gift, is to aid students in the graduate departments of the University to pursue their studies, either in foreign countries or in other institutions or places in the United States; and the fellowships should be awarded, explains the donor, to those men who seem to be best qualified to make permanent contributions of value to art, letters, science, or law. The terms of award, it is explicitly stated, are to be construed broadly and are meant to include students of medicine or surgery, and engineering in its various branches, as well as other fields of knowledge. The desire is further expressed that, although the fellowships to be established are primarily intended to advance knowledge and to aid graduate students of promise and maturity in the pursuit of their special subjects of study and investigation, the senior in Columbia College who shows ability of high order and the promise of a well-rounded development should also benefit, and that each year at least one such student should receive aid from the fund in order that an opportunity be given him for travel or study outside the University during the year next after his graduation. The income from the fund will be first available for the academic year 1914–15.

The establishment of a number of traveling fellowships available generally throughout the University, as is intended by the terms of the present gift, meets in generous measure a want that under existing conditions is only imperfectly supplied. The foundation of the William Bayard Cutting fellowships comes not only as a timely and welcome gift to the University to add materially to its strength and its usefulness along important lines, but it will lastingly stand as a reminder of the loyalty and devotion of one who had always at heart the permanent welfare of his *alma mater*.

The Loan Exhibition

The exhibition of manuscripts and books illustrating the history and liturgy of the Church, which was on view in the Avery Library and in the Exhibition Room from October eleventh to November ninth, was not only by far the largest, but much the most important exhibition which the University has ever undertaken. Its success, as evidenced by an attendance of over thirty thousand persons, shows how widely it was appreciated and as a demonstration of the ability of the University to bring together and to show to advantage a collection of books such as, it may safely be said, has never before been exhibited, it proves the importance of this field of the University's work. Not only to book lovers did this exhibition afford unusual privilege and opportunities, but in its historical and artistic aspects it appealed to all interested in the history of the Church and Church institutions, or in the development of the fine arts as exemplified by the rare bindings and exquisite illuminations. For the liberality which made it possible for the University to offer such an opportunity to students and to the public, the University is indebted to the generous cooperation of numerous friends, but above all others to the late Mr. J. Pierpont Morgan, who had personally planned the exhibition to be given in connection with the General Convention of the Protestant Episcopal Church and whose wishes were most effectively carried into execution by his son.

THE UNIVERSITY

Press Activities

The Columbia University Press has added to its list of publications, as chronicled in the QUARTERLY, volumes i and iii of the "Studies in cancer and allied subjects," conducted under the George Crocker Special Research Fund, which complete the present series of four volumes. The whole series is commented upon in detail on another page of the QUARTERLY.

Professor Thomas Hunt Morgan's "Heredity and sex," which has just appeared from the press, is one of the most important of the recent publications of the University. "Two lines of research," says the author in his introduction, "have developed with surprising rapidity in recent years. Their development has been independent, but at many stages in their progress they have looked to each other for help. The study of the cell has furnished some fundamental facts connected with problems of heredity. The modern study of heredity has proven itself to be an instrument even more subtle in the analysis of the materials of the germ-cells than actual observations on the germ-cells themselves." The particular aim of the book, which is profusely illustrated, is to point out the bearing of cytological studies on heredity, and of the study of heredity on the analysis of the germinal materials. Among the topics with which the various chapters deal are the evolution of sex, the mechanism of sex-determination, the Mendelian principles of heredity and their bearing on sex, fertility, and some special cases of sex-inheritance. The material of the book, it will be remembered, is the course of lectures delivered, last spring, by the author at the American Museum of Natural History.

Recent issues of the Press are, furthermore, three volumes in the Studies in English and Comparative Literature: "Learned societies and English literary scholarship in Great Britain and the United States," by Harrison Ross Steeves; "Aaron Hill. Poet, dramatist, projector," by Dorothy Brewster; and "Chaucer and the Roman de la Rose," by Dean S. Fansler. Two volumes have been added to the Germanic studies: "Wieland and Shaftesbury," by Charles Elson; and "The dative of agency. A chapter of Indo-European case syntax," by Alexander Green.

The purpose of Dr. Steeves's book is to call attention in detail to the importance and extent of the contributions to criticism and literary history made by learned societies of letters in England and America and to trace the historical growth of these movements and the influence they have exerted upon the scholarship of their own day and the present time. The author's account of the surprisingly long list of such activities begins with the most ancient of the English literary societies, the "Assembly of the Antiquaries," founded by Matthew Parker, Archbishop of Canterbury, in 1592, and ends with a chapter on American societies and clubs.

Miss Brewster's monograph on Aaron Hill is an interesting study of one who is confessedly a very minor figure in the history of English literature, but who, on account of the esteem with which as a writer he was held in his own day—the first half of the eighteenth century—and his extraordinary versatility, well deserves the recognition that the present book accords him. Hill, it is pointed out, had relations more or less intimate with Pope and Richardson, and with many less famous writers; he was versatile and enterprising to such an unusual degree that he left few of the typical pursuits of his time untried; and the prominence of his name in his own day, compared with the total eclipse of it in our own, provides an interesting psychological problem. The book, in following out this line of thought, is not only, as it is, a just appreciation of an author who has scarcely merited the characterizations that have been applied to him by his later critics, but it is also a picture from a fresh point of view, and along somewhat extended lines, of eighteenth century activities and conditions.

Dr. Fansler's "Chaucer and the Roman de la Rose" is a new and careful review of the whole matter of the influence upon the English poet of the authors of the *Roman,* Guillaume de Lorris and Jean de Meung, in its amount and relativity, with regard to which most contradictory views have been held by literary critics. His ultimate conclusions, arrived at after a thorough consideration of Chaucer's verse against the background of the *Roman,* are that to Guillaume he was under obligations for not a few touches of outdoor description scattered through the poems, as well as for some conventional situations and stylistic devices. To Jean de Meung he appears to have gone for all kinds of allusions and information which he freely used. The second part of the *Roman,* in short, seems to have exerted in countless subtile ways that are not always readily demonstrable an influence upon Chaucer. This was not, however, as has been assumed, to the extent of allowing his French master to do his thinking for him. It was not

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Journalism, in general outward appearance, is not unlike Hamilton and Kent, but it differs considerably in interior arrangement. The building contains, besides administrative offices and class rooms, the large lecture hall, a typewriting room specially fitted up for students taking professional courses, the library, and a newspaper reading-room; the third, fourth, and fifth floors are given over to smaller class rooms and studies, affording a total seating capacity of about two thousand two hundred.

There is in process of construction on East Field a building for the Crocker Fund for Cancer Research. This temporary structure is a three story and basement building, one hundred feet by thirty-five feet, designed to give space and light for research laboratories. The work of the Crocker Fund, which is now being carried on at St. Luke's Hospital and in some of the University laboratories, will all be transferred to the new building during the winter.

Whether the addition or the removal of a building plays greater havoc with one's memory of a university campus may well be a subject for debate. During the summer West Hall, a relic of Bloomingdale days, was removed and the beauties of the Havemeyer-Engineering-Earl corner of the campus became visible for the first time. The occupants of the old building have scattered in various directions: the book store, the department of anthropology, and the *Spectator* printing plant have gone to Journalism; the offices of the student publications and of the several other organizations have gone to University; while the barber shop has been moved to the low connecting building between Hamilton and Hartley.

* * *

Professor Fullerton's Inaugural

The inaugural lecture of Professor George S. Fullerton as the first American exchange professor in Austria took place in the great hall of the University of Vienna on Monday morning, October 20, at eleven o'clock, in the presence of a large number of students as well as of representatives of the ministry of education and of the faculty of the university. The American am-

see p. 69

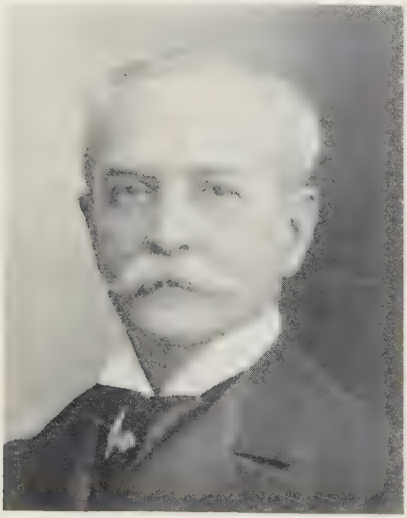
JOSEF SCHUMPETER

First Austrian Exchange Professor

see p. 70

JEAN PERRIN

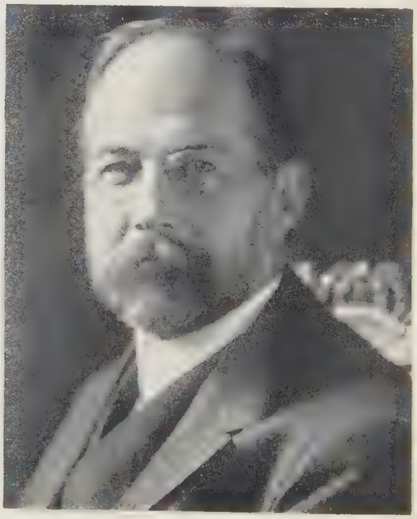
Visiting French Professor



see p. 416, vol. xv

WILLIAM D. SLOANE

New Trustee



see p. 72

WALTER MENDELSON

Fourth Alumni Trustee

bassador, Frederick C. Penfield, and many members of the American colony of Vienna were also present. After introductory remarks by the rector of the university, Dr. Richard von Wettstein, and by the dean of the faculty of philosophy, Professor Rudolf Franz Wegscheider, both of whom spoke very warmly of the new departure in receiving from America and sending to that country, Professor Fullerton delivered an address on "Philosophy and national life", which is printed in full as a leading article in this issue of the QUARTERLY. The address was followed with the greatest interest by all present.

* * *

Austrian Exchange Professor

Josef Schumpeter, the first Austrian exchange professor, was born in Triesch, Moravia, in 1883, and received his early education in Vienna, where he also attended the University. He was awarded the degree of doctor of law and political science in 1906 and after spending several years in travel, established himself as a docent at the University of Vienna in 1909. A few months later, he was appointed professor of political economy in the University of Czernowitz, and in 1911 he was appointed professor of political economy in the University of Graz.

Professor Schumpeter's own system of economic theory is developed in two books, "Wesen und Hauptinhalt der theoretischen Nationalökonomie" and "Theorie der wirtschaftlichen Entwicklung". In addition, he has published a number of important papers, among others the following: "Ueber die mathematische Methode der Nationalökonomie" (*Zeitschrift für Volkswirtschaft, Sozialpolitik und Verwaltung,* 1906), "Bemerkungen über das Zurechnungsproblem" (*ibid,* 1908), "Wesen der Wirtschaftskrisen" (*ibid,* 1910), "Das Rentenprinzip in der Verteilungslehre" (*Schmollers Jahrbuch,* 1907). He has also contributed a history of economic theory to Schönberg's "Handbuch der politischen Oekonomie," which is to appear shortly, and has furthermore prepared a treatise on banking law for a manual of mercantile law to be published in the near future.

In recent years Professor Schumpeter's interest has been largely in the field of sociology, but he has not yet published anything in this department. As an economist, Professor Schumpeter is a member of the Austrian school—the brilliant group of writers headed by Böhm-Bawark and Wieser of the University of Vienna, who have rescued economic theory from the eclipse with which it was for a time threatened by the able but exaggerated criticisms of the leaders of the German historical school. Though agreeing with his Viennese colleagues in many of their theories, he has shown great independence and originality in his treatment of the phases of economics, such as the interest problem, to which he has given particular attention. Thus, in spite of his comparative youth, he has won a place in the very front rank of contemporary European economists. His fluent command of spoken English and his intimate knowledge of American economic literature qualify him in the highest degree to acquaint the students of economics at Columbia with the leading doctrines of the Austrians.

* * *

The Visiting French Professor

Jean Perrin, professor of physical chemistry at the Sorbonne, is the third incumbent, in succession to Professors Lanson and Bergson, of the visiting French professorship in Columbia University. Born at Lille in 1870, he studied in Lyons and Paris until his year of military service, after which he continued his study of science in the Ecole Normale Superieure, where he was appointed an assistant in physics in 1894.

Professor Perrin began his contributions to science, in 1895, with an important research on the nature of the cathode rays. He made the first direct proof that these rays carry negative electric charges, thereby supplying the crucial test in support of the Crookes corpuscular theory as opposed to the Lenard wave theory, which latter was then strongly supported. For these studies of the cathode rays, he was awarded the Joule prize by the Royal Society of London. Continuing his studies in a closely related field, Professor Perrin investigated the mechanism by which X-rays discharge electrified bodies, and showed that, in traversing a gas, they produce mobile ions which move along the lines of force until they encounter conductors which they discharge or insulating bodies which they charge. The results of this work he submitted as his thesis for the doctorate of science at Paris in 1897. Later, in 1908, he edited a collection of papers by various authors on " Ions, electrons and corpuscles." In 1898, soon after the publication of his doctor's thesis, he was charged with the organization at the Sorbonne of a course in physical chemistry, a science then regarded as new. In 1901, he began the publication of a treatise on physical chemistry by a volume on the " Principles." In this book, some of the great work of the American physicist, Gibbs, in thermodynamics was first made accessible in the French language.

In the earlier years of Professor Perrin's work in physical chemistry at the Sorbonne, he made important contributions to the knowledge of contact electrification and the behavior of ions in solution, and in particular of the properties of colloids. About 1908, his interest led him to studies of the Brownian movements, that is, the irregular movements exhibited by small particles in suspension in a liquid, or in a gas. These movements are due to molecular bombardment, so that in observing them one can almost claim to be an eye witness of the molecular motions which constitute heat. From his study of the Brownian movements and heat phenomena, Professor Perrin has made very important contributions to the knowledge of the dimensions and magnitudes of molecules and atoms.

Since 1901, Professor Perrin has, besides his Sorbonne professorship, been in charge of a course in the Ecole Normale Supérieure de Jeunes Filles. In 1910, he was honored with the doctor's degree by the University of Berlin. The same year he received the Gaston Planté prize of the Paris Academy of Science. In 1912, he was awarded the Vallauri prize by the Academy of Turin, and the gold medal by the Academy de Lincei.

The course of lectures which Professor Perrin is giving at Columbia is on the general subject of the "Atomistic theory," with special reference to the recent investigations in various lines that have rendered the reality of atoms, molecules and electrons much more apparent and have afforded much more exact estimates of their dimensions. Beside the regular course of two lectures a week on "L'atomistique," a general presentation of physical chemistry from the point of view of atomistics, offered to students of chemistry and physics, Professor Perrin has given three public lectures, with experimental demonstrations, on "Le mouvement Brownien et la realité moléculaire," on "Bulles de savon, lames minces, et grandeur des molecules," and on "Evolution des atomes et cosmogenie."

* * *

The Carpentier Lecturer

Sir Courtenay Ilbert, the Carpentier lecturer for 1913, was born at Kingsbridge in Devonshire, England, in 1841, his father being at the time rector of the parish of Thurlestone in that neighborhood. He was educated at Marlborough College, and afterwards at Balliol College, Oxford, of which he was successively scholar, fellow and bursar. He took a first class in classics, and obtained four of the principal scholarships of the University, the

Hartford, the Ireland, the Craven and the Eldon. For two years he was tutor of Corpus Christi College, Oxford, and after leaving the university he studied for the bar, to which he was called in 1869. He practiced as a chancery barrister and as a conveyancer, and also had considerable practice in the drafting of parliamentary bills, both for the government and for private members. In 1882 he accepted the post of law member of the Governor General's Council in India. In that capacity he was responsible for the preparation, introduction and passage through the legislature of many important measures, and was the chairman of all the select committees to which, under the Indian legislative procedure, bills must be referred. Whilst in India he was vice-chancellor of the University of Calcutta, and for a short time, during the temporary absence of the viceroy, was president of the Governor General's Council, exercising the Governor General's powers during his absence.

In 1886 he resigned his post in India to take up the office of assistant parliamentary council to the treasury, a post from which he was subsequently promoted to that of parliamentary council or chief government draftsman. He resigned the latter post in 1902 in order to take up that of clerk to the House of Commons, which he now holds.

Sir Courtenay is the author of the "Government of India," the standard book on that subject, of a book on "Legislative methods and forms," and of a small book on Parliament. He is chairman of the Statute Law Committee and of the executive committee of the Society of Comparative Legislation. He is a vice-president of the London Library and a member of the governing bodies of Marlborough College and of the London School of Economics and Political Science.

Sir Courtenay is a Knight Grand Commander of the Order of the Bath, a Knight Commander of the Star of India, and Companion of the Order of the Indian Empire.

* * *

The New Alumni Trustee

Walter Mendelson, '79M, whose name was presented to the board of trustees at the October meeting for election as the fourth alumni trustee, was born in Germantown, Philadelphia, in 1857. His father was Simon Mendelson and his mother Rebecca MacGarr, the former being German and the latter Scotch-English. Dr. Mendelson attended first the Friends' Seminary in New York, then Quackenbos' School, and later graduated from Public School No. 35, having meanwhile studied two years in Hamburg, Germany. He spent one year at the College of the City of New York before entering the School of Mines in the class of 1877, which he left in 1876 to enter the College of Physicians and Surgeons. He took his medical degree with the class of 1879. On the completion of his term of service as an interne at the New York Hospital in 1881, he went to Europe, where he spent two years studying under Cohnheim and Ludwig in Leipsic, under Winkel in Dresden, and under Forel in Zurich.

For his work on the renal circulation during fever, the Cartwright prize of the P. and S. Alumni Association for the year 1883 was awarded to him. In the same year he returned to New York and began the practice of his profession as an assistant of the late Dr. William H. Draper, '51, '55M. Ever since that time he has been engaged in the active practice of medicine. Soon after his return from Europe he became connected with the Roosevelt Hospital Outpatient Department and continued his work in this department until 1888. About 1884 he was appointed examiner in physiology and instructor in clinical microscopy and urinary analysis at P. and S., continuing to hold this position until the College moved to fifty-ninth street.

For years Dr. Mendelson has been an active worker in the P. and S. Alumni Association, first as a member of its council, then as vice-president, and for the past three years as president. At one time he represented the Association on the Alumni Council, and he was a delegate to the first two nominating conventions for alumni trustee.

Dr. Mendelson is a member of the County and State Medical Societies, the Academy of Medicine, the American Medical Association, the West End Medical Society, the Clinical Society, the American Association for the Advancement of Science, the Society for Sanitary and Moral Prophylaxis, and the Society for the Prevention of Tuberculosis. He is also a member of the Society of Friends and of the Century Association.

* * *

Professor of Clinical Medicine

Austin W. Hollis, who was appointed professor of clinical medicine at the May meeting of the trustees, was born in 1868 in Bermuda, where he received his primary and grammar school education. He then entered Upper Canada College, Toronto, from which he was graduated at the age of eighteen. In 1887 he was one of a large class that entered the new buildings of the College of Physicians and Surgeons on fifty-ninth street, where he was graduated in 1890, receiving the first Harsen prize for proficiency in examination. In July of the same year he became an interne at St. Luke's Hospital on the medical division and remained there for two years, subsequently becoming an assistant physician at the Nursery and Child's Hospital. He then began the practice of medicine in New York City and was appointed physician to the New York Dispensary, with which he has ever since been connected, having for ten years taught physical diagnosis to a large number of students in the old building on Centre Street. The New York Dispensary building at Worth Street, erected only a few years ago and now to be torn down to make room for civic buildings, and the present new dispensary on Spring Street, were designed by him. In 1895 he was appointed physician-in-chief to the out-patient department of St. Luke's Hospital; in 1903 he was made an attending physician to the wards; and in 1912 he was made chief of medical division A of the hospital.

* * *

Crocker Research Fund

The work of cancer investigation in Columbia University has unfortunately been hampered very greatly during the past year by lack of available space for research, and this has necessitated conducting in other laboratories any work done by members of the staff, an arrangement at the best unsatisfactory. Professor Calkins and Dr. Bullock spent the summer at Woods Hole, continuing the biological work which was begun some three years ago under a grant from the Crocker Fund. While interesting and suggestive results have been obtained in these experiments in the production of tissue growth by the use of various protein split products, as yet no true tumors have been produced. The work at Woods Hole was a repetition on lower animals of some of the mammalian studies and showed that certain types of nucleo-proteins do influence the growth of protozoa and related groups. Dr. Rohdenberg was engaged during the summer in investigating the influence of colloids and combinations of colloids with organic substances on the growth of tumors in animals. Professor Woglom was busy during the early part of the summer in finishing the proof correction of volume i of the Studies in Cancer and Allied Subjects, which has now appeared and has already received flattering recognition. He has also just finished a translation of "Anatomische Grundlagen wichtiger Krankheiten" by Dr. L. Jores, and this will go to press in a short time. Professor Wood has been largely occupied in the supervision of the construction and equipment of the new laboratory, and has also prepared during the summer several articles on tumors for the new edition of the Reference Handbook of Medical Sciences.

* * *

Studies in Cancer and Allied Subjects

A valuable addition to our knowledge of cancer was offered upon the publication by the University Press and under the auspices of the George Crocker Special Research Fund, of a series of four volumes bearing the common title: "Studies in cancer and allied subjects." They contain not only a group of papers dealing with cancer and its ancillary subjects, published during the past few years in various journals and collected now for more ready reference, but also a number of monographs issued for the first time; and together they represent the output of a number of laboratories in Columbia University and its medical school, the College of Physicians and Surgeons, under Mr. Crocker's original gift of fifty thousand dollars. The volumes appear in a rather sumptuous quarto form, a size which permits the reproduction of large cuts, while it offers at the same time an ample margin for notation on the printed page. The first, however, "The study of experimental cancer: a review," by William H. Woglom, appears also in octavo format, since it was anticipated that it will be of more interest to the general medical public.

A comprehensive survey of the results which have accrued from the investigation of animal cancer during the past ten years, this first volume may be regarded, in a way, as supplementary to Wolff's well-known German text, which takes its reader approximately to the period when the transplantation of cancer from animal to animal was initiated. Apart from its final chapter, in which are selected what the author considers the most important of the results so far achieved, the treatise contents itself with a review of the situation as it existed in the earlier months of 1913, without adopting a critical attitude. It has been warmly received by those competent to judge its subject matter, and will no doubt long remain a standard reference book on the biological aspect of cancer investigation.

Volumes ii and iii are reprints of papers published by members of the departments of biological chemistry, clinical pathology, pathology, surgery, and zoology, working under the original Crocker gift.

Volume iv contains a series of eight masterly studies, previously unpublished, on "The anatomy and development of the salivary glands in the mammalia," undertaken because it was felt that a thorough re-investigation of the embryology of this region might throw some light upon the peculiar and baffling tumors in man which arise in and about the salivary glands, the palatal region, and the pharynx. The papers herein contained have fully justified this belief, although it is impossible here to go into details concerning the highly technical points which they present and discuss.

As occasion arises, further contributions to the study of cancer will appear from the Crocker Fund, and the medical world will await with interest the results of investigations by an enlarged staff now beginning its labors in the model laboratory building which, just completed on the University grounds, offers a permanent home for this magnificent endowment of medical research.

* * *

Academy of Political Science

The New York Academy of Political Science, which is affiliated with Columbia University and has its headquarters in Kent Hall, called a second national conference on currency reform which met in New York city October fourteenth and fifteenth. One hundred and ten delegates were appointed by the governors of seventeen states to attend this conference, and, following immediately the meeting of the American Bankers' Association in Boston the week previous, it brought to New York city a large and representative gathering of bankers and business men. The cooperation of the New York Chamber of Commerce was extended and the Academy given the use of the hall of the New York Chamber for the first and second sessions of the conference. The third and fourth sessions were held in Earl Hall on the University campus, and the fifth and closing session was a banquet at the Hotel Astor, at which the members listened to an address by former Senator Nelson W. Aldrich, who gave an historical summary and interpretation of monetary legislation in the United States, together with a critical analysis of the pending administration measure known as the Owen-Glass Federal Reserve Act, which Mr. Aldrich considered fundamentally wrong in principle and dangerous to the fiscal policy of the United States.

On the other hand, the pending Federal Reserve Act was ably explained and defended at all of the other sessions of the conference—notably at the first session at which Senator Owen himself spoke representing the Senate Committee on Banking and Currency, and Congressman Bulkley of Ohio, one of the most active members of the House Committee on Banking and Currency, made an able address.

Congressman Carter Glass, the chairman of the House Committee, was unable to be present on account of illness, but sent a paper which will appear as part of the proceedings of the conference.

Dr. H. Parker Willis, expert for the House Committee, who has been chiefly instrumental in giving the Owen-Glass Bill its present form, expounded its principles at the second session, and Mr. A. Barton Hepburn of the Chase National Bank, who represents officially the opposition of the bankers to this bill, pointed out its defects. Among other speakers at the Conference were Professor O. M. W. Sprague of Harvard University, Professor E. W. Kemmerer of Princeton University, who acted as secretary of the conference, Mr. Frank A. Vanderlip, the president of the National City Bank, Mr. Arthur Reynolds of Des Moines, the president of the American Bankers' Association, Mr. Alexander D. Noyes, the financial editor of the *New York Evening Post,* Professor Joseph French Johnson of New York University, Mr. A. Platt Andrew, secretary of the Monetary Commission, Mr. Edward L. Howe of Princeton, Mr. Irving T. Bush of New York city, Mr. W. M. Van Deusen of the National Newark Banking Company, Mr. Fred I. Kent of the Bankers' Trust Company, Mr. Joseph T. Talbert and Mr. John E. Gardin of the National City Bank, and Mr. J. A. Neilson of Brown Brothers, New York.

Professor Samuel McCune Lindsay, the president of the Academy, presided at the opening session and also at the fourth session. Professor E. W. Kemmerer was the presiding officer at the second session, Professor E. R. A. Seligman at the third and Dr. John H. Finley, the president of the City College, presided at the closing session. The meetings were well attended throughout. The conference, as a whole, exerted a very decided influence upon public opinion, both in Washington and throughout the country, and was well reported by the daily press in the east, south and middle west.

The volume of proceedings containing the papers and discussions presented at the conference is being rapidly pushed through the press under the editorship of Professor Henry R. Mussey of Columbia University, and will be ready for distribution about November first.

The Wildey Window

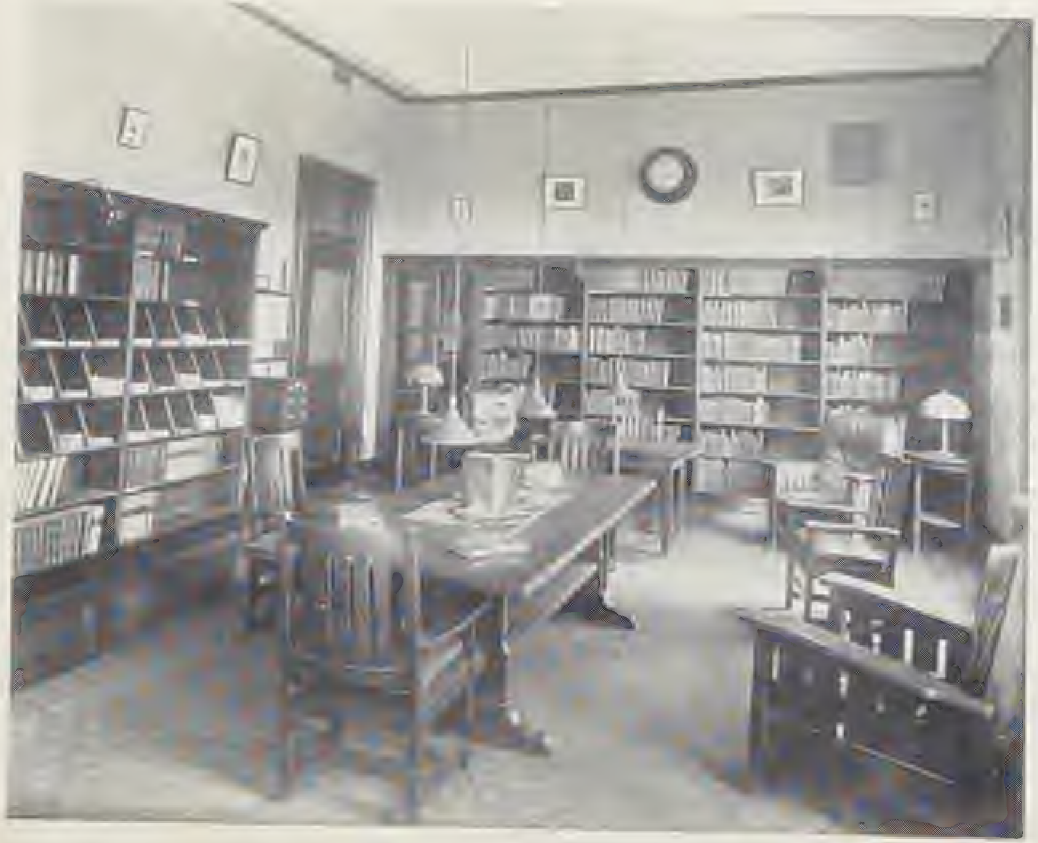
A window given in memory of Pierre Westcott Wildey, A.B. 1860, LL.B., A.M. 1863, and Yale, A.M. 1865, has recently been placed in the library of Kent Hall. It consists of a large central panel and two side panels and is executed in semi-transparent cathedral glass, which affords an excellent background for the rich coloring of the principal design—the figure of a woman, bearing the scales and a sword, typifying the law. Above this figure is the seal of the University, and distributed over the panels are the arms of the thirteen colonies and four medallions, bearing the names of Jay, Marshall, Livingston and Kent. The window, which was the gift of Mrs. Wildey, was executed by Messrs. J. R. Lamb & Co., and adds materially to the beautification of the room. It is to be hoped that a window of similar design may be placed in the west end of the library as a memorial either of a class or an individual.

* * *

Report of Employment Committee

In his annual report for 1912–13, recently issued, Malcolm M. Roy, '09, secretary of appointments, deals first with student employment and secondly with appointments of graduates to professional, business and teaching positions. Last year the number of students registered with the employment bureau was five hundred and fifty-six, an increase of three over the preceding year. These figures do not include the total number of students at the University who were self-supporting during the academic year, but only those who were registered at the authorized bureau. It is pointed out that these figures represent roughly about one-tenth of the registration of the University for the academic year; and it is estimated that at least one-third of the total registration in the graduate faculties, the professional schools, with the exception of P. and S., and in Columbia College, is made up of students who are depending upon themselves for the expenses of at least a part of their education. The total earnings of those registered with the Committee were $120,279.30, of which $57,192.74 was earned directly through aid given by the office. The remaining $63,086.56 was made independent of any assistance by the office. The earnings with the help of the office show an increase of more than sixty per cent. over those of the preceding year. During the summer of 1912, students earned with the help of the office $5,600.00 more than during the summer of 1911. In this connection it must be remembered that not all of the students registered in the appointments office report their earnings. Of the 566 registered with the office during 1912–13, 459 reported; while only 256 of the 460 registered during the summer of 1912 did so.

The average amount earned with the help of the office by each student reporting was $91.75, an increase of $25.75 over the year 1911–12. The students in the Law School averaged $136.15, while 89 graduate students averaged $121.25. The reported average earnings



THE PHYSICS READING ROOM

in the other schools for the academic year were: Fine Arts, $92.05; Extension, $88.41; College, $87.91; Journalism, $79.06; Barnard, $49.47; Applied Science, $42.56. These figures, added to the averages for work during the summer of 1912, bring the total average for the twelve months' period up to $150.20, an amount almost sufficient to pay tuition in the Law School, the College, Barnard College, Teachers College, the Graduate Faculties, or the School of Journalism.

The appointments office now plans to make the work of finding permanent positions for graduates of the University a definite and important part of its duties. The results for the two months in which the work was under way prior to the date of the report were fairly satisfactory. Some appointments for teaching positions in universities, colleges, and secondary schools were obtained, and the office had more engineering positions than it could fill. The committee on law clerkships of the Alumni Association of the Law School has turned over its work to the appointments office, but not enough time has elapsed since the change to observe results.

The secretary makes several suggestions. In the first place he points out that with closer cooperation on the part of professors and officers of the University, the office could do better work. He would have all applications, both from students and employers, referred directly to the office, to be attended to in consultation with heads of departments and professors, but not exclusively by them without the knowledge of the office. Otherwise, the work of the office can not be thoroughly organized and systematized. Another suggestion is that the office should be represented on the various scholarship committees of the University, as its records contain information regarding the necessities of the men registered for work. Finally, the need of an endowment fund of at least one hundred thousand dollars is mentioned. More clerical help could be put to good use, and a continuous campaign of advertising in a selected list of the better newspapers and journals ought to be carried on.

* * *

The Physics Reading Room

One of the most attractive reading rooms of the University is located in 501 Fayerweather Hall, and is devoted to the needs of the department of physics. This reading room (see illustration) has been furnished by graduates and undergraduates of St. Anthony Hall, Riverside Drive and One Hundred and Sixteenth Street, which is the home of the Alpha chapter of the fraternity of Delta Psi.

The general scheme of the furniture of this library is heavy dark oak, the tables and chairs being in the well-known hand-craft design. The chairs, some of which are of the Morris type, are upholstered in dark red leather. The lighting fixtures and the table lamps are of Pompeian bronze, and the book cases are illuminated from above by hooded lamps. Portraits of eminent physicists adorn the walls. The card catalog comprises not only the books in the room, but all books relating to physics in the general library. On the west wall is a bronze tablet with the following inscription: "The furniture in this library presented by the members of St. Anthony Hall, 1912."

The library was organized about three years ago, and it was largely through the efforts of Professor C. C. Trowbridge, in cooperation with the library staff, that the physics reading room has been so successfully developed. It is the purpose of the department of physics and the University librarian to keep in this room only a small and selected collection of books useful for professors and advanced students. The main collection will remain in the stacks of the general library. At the request of the department of physics, there has, however, been placed upon the shelves in the general reading room and in the college study a selection of text-books and treatises which are most often needed by students.

In physics there are many divisions of the subject. Professors and instructors who teach engineering students must not only have immediate access to important books in physics, but should also have the standard works on engineering always at hand. A number of such books have been presented recently to the department of physics by the professors of engineering of the University. The college, extension and optometry students have need of still other books, while the volumes required by the graduate students and those doing research work must be selected from a varied and large field. The reading room now contains about one thousand five hundred volumes and twenty-five periodicals. It is used continually by the professors and students and in various ways has proved invaluable.

* * *

Emmons Geological Fellowship

The late Samuel Franklin Emmons, Sc.D. 1909, was for nearly thirty years connected with the United States Geological Survey, and was widely known for his valuable and important work in the field of economic geology. A number of his friends have presented to Columbia University a memorial fund for the endowment of the Emmons Geological Fellowship; the purpose being to continue, through investigations and publications, the scientific research carried on by Mr. Emmons during his lifetime, more particularly in the field of economic geology.

The fellowship will be awarded from time to time to graduates of any college or university who show exceptional capacity, by a committee consisting of Professor James F. Kemp, Professor John D. Irving, '96, of the Sheffield Scientific School, and Professor Waldemar Lindgren of the Massachusetts Institute of Technology. The recipient will be at liberty to travel and to conduct his investigations either in this country or abroad. The amount of the fund is thirteen thousand dollars.

* * *

Greenhouse Laboratory

During the two years that regular work in agriculture has been offered in the University, a serious drawback to the satisfactory prosecution of the work has been the lack of adequate laboratory facilities. This deficiency has been felt particularly in the courses in agronomy and horticulture. A generous donor has provided the necessary funds to erect and equip the desired greenhouse laboratory, and the trustees have set aside for this purpose the requisite building site to the south of the botany greenhouse.

* * *

The Commons

On October 6 the Codington Restaurant Company took over on a one-year contract the operation of the Commons, which has been under University control since 1908. Before that time the dining-room was run as a private enterprise, the University receiving a rental for the privilege. In the spring of 1908 the University decided to experiment with home rule and put a student manager, Clarence R. Jones, '09, in charge. In the spring of 1911 Mr. Jones resigned to accept an appointment as commissary at Sailor's Snug Harbor since which time the Commons has been run directly by the Department of Buildings and Grounds. The problem of running a satisfactory restaurant on the Campus is made extremely difficult by the week-end exodus and the holiday time desertions of a large number of the regular student patrons.

* * *

Even those who know better than to believe or repeat the parrot-like statements as to the lack of spirit among Columbia undergraduates

Student Smoker

were amazed at the exhibition of student enthusiasm and gregarious good fellowship that was manifested at the Student Smoker on October the eighth. On a disagreeable, rainy night the Commons was literally packed with students, more than two hundred of whom had to stand through the entire proceedings. More important, however, than the numbers was the general air of what may be termed decorous hilarity, with an evident underlying note of seriousness and individual responsibility. The meeting was the suggestion of the president of the junior class, Mr. H. F. Holthusen, and was held under the auspices of the student board of representatives, the chairman of that board, Mr. C. F. MacCarthy, being the presiding officer. The speakers were the President of the University, the deans of the College and of Applied Science, Mr. Charles H. Mapes, '85, and representatives of the athletic and other student interests.

* * *

Pell Bequest

Under the will of Mrs. Mary B. Pell, the widow of John H. Pell, '52, the University will eventually receive a bequest which, it is estimated, will amount to five hundred thousand dollars, but the fund, which is invested in real estate, is subject to several life estates, so that it will not become available at present. A portion of the fund is to be devoted to the erection of a building to be known as "Pell Hall."

SCHOOL OF ARCHITECTURE

With an entering class of fifty-eight the registration (October 13) in the School of Architecture had reached one hundred and fifty-five, the largest in its history. This is particularly gratifying in view of the fact that the increased tuition fee (two hundred and fifty dollars instead of two hundred dollars), adopted in May by the trustees, affected all students entering in September. Last year, at this time, the registration was one hundred and thirty-five. It is also gratifying to record an increase in the number of those who are registered as candidates for the degree. The present registration shows 38 per cent. for the degree, 45 per cent. for the certificate, and 17 per cent. non-matriculates.

The work of the past year in design has shown some interesting results. The greater part of this work has been on the problems given out by the Society of Beaux Arts Architects, and has been judged by

DRAFTING ROOM, AVERY BUILDING

the juries of that society, in competition with the work of several other schools and many *ateliers* not connected with any schools. About ninety per cent. of the drawings submitted by Columbia students received awards, among which have been twenty-four medals. As all the work of Columbia students is submitted in these competitions, while some of the other universities send only selected designs, this showing is highly commendable. In addition to these *projets*, there have been a number of sketch problems independent of the Beaux-Arts competitions, and brilliant work has been done in connection with the courses in ornament.

A unique experiment has been successfully made in the course in stereotomy. Every student is required to solve a certain number of problems not merely by diagrams, but by models made from the diagrams. Some of the models of winding stairs, interpenetrating vaults and the like are beautifully executed, and the geometrical study is thereby made interesting to the student as well as practical and vital in character.

The fine models of the northeast corner of the Parthenon and of the two bays of Reims Cathedral, which during the past year have been lying dismounted in the drawing room in Avery Hall, have been set up and repaired. The Parthenon model stands on the mezzanine landing and the Reims model in the hall on the third floor. As both have been set up on movable pedestals, they can now be studied on all sides to equal advantage.

The McKim fellowship was awarded to Mr. Erich Gugler, '12, and he is now in Rome, after having spent some months in England studying especially the eighteenth century work of the Brothers Adam. The Columbia fellowship, for some years past a resident fellowship, has again been made a biennial traveling fellowship and will be offered for competition in 1914. Owing to the small number of graduates who have in late years competed for these fellowships, a joint committee of instructors and alumni of the School is now considering ways and means of making these more attractive to the graduates, with a view to suggesting changes in the regulations which it is hoped will be authorized by the trustees and the University Council for the removal of whatever obstacles now deter Columbia men from competing. Mr. Paul Schulz, '14, was the winner of the medal given by the Alumni Association for proficiency in advanced design, and was placed second in the competition for the Warren prize.

The Roman prize scholarship in architecture, a two years' scholarship, offered annually by the American Academy at Rome, was this year won by Mr. Walter Lester Ward, '13, and he is now in Rome in accordance with the requirements of the prize. This prize is open to graduates and advanced students of architecture throughout the country. It was won in 1910 by a Columbia student, Mr. R. H. Smythe, who has just returned from Rome. Mr. Ward will study in the Academy until the summer of 1915.

Two graduates of the School have been recently called to organize and direct new schools or departments of architecture: Mr. Arthur A. Stoughton, '88, winner of the first Columbia fellowship in 1890, associated with his brother in the practice of architecture at 96 Fifth Avenue, has been appointed professor of architecture in the University of Manitoba at Winnipeg. The Stoughton brothers are widely known as the architects of the Soldiers' and Sailors' Monument on Riverside Drive. Mr. Goldwin Goldsmith, 111 Fifth Avenue, has gone to the University of Kansas in a similar capacity. Another graduate of the School, Mr. William L. Lowndes, has been placed in charge of the instruction in architecture offered by the International Correspondence Schools of Scranton, Pa.

Professor Hamlin is one of the staff of editorial revisers of the New International Encyclopedia. He lectured on October 17 at Vassar College, on "Old world gardens." Mr. Richard F. Bach, curator, spent the summer in Europe in travel and study.

DEPARTMENT OF ASTRONOMY

Professor S. A. Mitchell left us on June 30, to accept the professorship of astronomy at the University of Virginia, in succession to Professor Ormond Stone, and the entire work in astronomy is therefore now being carried on by Professor Jacoby. In the last summer session, two courses were given by him: an elementary one, with twenty-two in attendance, and an advanced course with four. Nine of those in the elementary course were College students, counting their work towards a bachelor's degree. At the same time, the third-year civil engineering students received instruction in geodesy at Camp Columbia under the supervision of Professor Jacoby, who was in Camp two days each week during summer session, immediate charge of the work being entrusted to Mr. William Bowie, of the U. S. Coast Survey, assisted by three younger men.

The first term of the year 1913–14 opened with seventy-six men in the Columbia College astronomy elective, by far the largest number ever registered in this subject. Forty civil engineering students appeared in the geodesy class-room, and sixteen in the astronomy elective at Barnard. Only one graduate course is being given, with five students.

The Macmillan Company recently published Professor Jacoby's "Astronomy, a popular handbook."

DEPARTMENT OF CHEMISTRY

Dr. J. E. Zanetti, formerly an instructor in this department and during the past year director of the Institute of Industrial Chemistry of Uruguay, has taken up his duties as assistant professor of chemistry, and is in charge of the work in qualitative analysis.

Inorganic Chemistry

Mr. James Kendall, A.M., B.Sc. (Edinburgh), who during the past year held an 1851 Exhibition scholarship and worked in the laboratory of Professor Arrhenius, has taken up his duties as instructor in inorganic chemistry. Mr. E. H. Leslie, B.S. (University of Illinois), has been appointed assistant in inorganic chemistry. The following new laboratory assistants in inorganic chemistry have also been appointed: Arthur P. Tanberg, Richard Kramer, Gustav Egloff, G. Scatchard, W. H. Ransom, and A. J. Scarlett.

There has been a considerable gain in the number of students in several of the laboratory courses, the total increase being about one hundred and twenty, or more than twenty per cent. The department is particularly fortunate in having at its disposal the Nichols laboratories, which were completed a year ago. The greatest number of students being naturally in the elementary courses in inorganic chemistry and in qualitative analysis, it would have been impossible without the Nichols laboratories to accommodate one-third of the students (over 700) now working in Havemeyer Hall, two-thirds of these being in the Nichols laboratories.

Chemical Engineering

Dr. Otto Kress, instructor, resigned last spring to enter an industrial position in a chemical factory. His place has been filled by the transfer of Assistant Professor Metzger, who was formerly in charge of analytical chemistry. Professor Metzger's work will be in industrial chemistry rather than in chemical engineering. Mr. Robert K. Murphy has received the degree of doctor of engineering from the Institute of Technology, Darmstadt.

In the laboratory of chemical engineering, two new units are being installed. One of these is to illustrate the principles and practice of absorption, the other the principles and practice of extraction by solvents.

Professor Whitaker has again been elected editor of the *Journal of Industrial and Engineering Chemistry.*

Electrochemistry

The laboratory has added one Hoskin 10 K.W. electric furnace to its equipment, and has an electric steel refining furnace of the Heroult type under construction.

Organic Chemistry

During the past summer session, the elementary courses (Chemistry 41–2 and 43–4) were given by Dr. Fisher. The laboratory course was, for the first time, required as a parallel to the lectures. Five junior chemical engineers took advantage of the opportunity and spent six weeks in the organic laboratory in lieu of going to Camp Columbia. The elementary lecture course was so crowded this fall that it was necessary to divide it into two sections, Dr. Nelson taking the applied science men and Dr. Fisher the college men. At the present time, there are ninety-two students taking laboratory work in organic chemistry, which is more than twice the number that the organic laboratory itself can accommodate. The overflow is distributed where desks were available in the old industrial laboratory and in the food chemistry laboratory (formerly qualitative), while the graduate students have been placed in some of the small rooms. To meet this great increase in students, a laboratory assistant has been appointed, Mr. Clive Maurice Alexander, B.S., M.S., recently assistant instructor in chemistry in the University of Iowa.

A new course, Chemistry 153, has been established as a trailer for the elementary organic (41–42), for those who come from elsewhere and wish to receive full credit for introductory organic.

Mr. Frank R. Elder has been awarded a University fellowship in chemistry and is carrying on research work in the organic laboratory. Messrs. Isham and Bender completed their dissertations last June and have both been appointed instructors in chemistry at Columbia.

Professor Bogert has returned from an eight months' absence in Europe and Africa. Much of his time was spent in visiting the chemical laboratories of the universities and technical schools, in personal conferences with the officers in charge, attending lectures and colloquia, in studying the general status of chemical education in different countries, and the equipment therefor, and such questions as the extent of the cooperation existing between the educational institutions and the chemical industries of the country. In Rome, he was the guest of the Societa Chimica Italiana at a meeting attended by the past presidents of this society and distinguished chemists from all parts of Italy. Later, a banquet was given in his honor by Marquis Paterno di Sessa, vice-president of the Italian Senate. The Society of Chemical Industry held its annual meeting in July at Liverpool, and Professor Bogert, as its presiding officer, delivered the presidential address. He was also the guest of honor at a reception given in the City Hall by the Lord Mayor, Sir J. S. Harmood Banner, M.P. In other cities and countries, various entertainments, both public and private, were tendered him by members of the chemical profession. Sir William Crookes, O.M., F.R.S., LL.D., D.Sc., succeeds Professor Bogert as president of the Society of Chemical Industry.

Department of Chinese

The department is holding its own as regards the number of students, there being scarcely ever less than a dozen enrollments. Registration this year shows seven Chinese and one Japanese in addition to six American students. The object for which the study is undertaken is a different one in almost every particular case. The students registered for the elementary course in the written language are by no means always beginners, but occasionally include more advanced students who are anxious to review the elements of the language. A number of native Chinese students are interested in the course on the history of China with which they are quite familiar in a way, but which they wish to see represented from the more critical western point of view. Only three students, two Chinese and one American, have registered for the more advanced literary studies, and two seniors, one Japanese and one American, are engaged in preparing papers in the seminars.

Department of Classical Philology

Courses in the summer session were given by three members of the department, Professors Knapp, Moore and Sturtevant, and in addition by Miss Theodora E. Wye, formerly an assistant in this department, Miss Grace Harriet Macurdy, of Vassar College, Professor Samuel E. Bassett, of the University of Vermont, and Professor Richard Mott Gummere, of Haverford College. One of the courses given by Professor Bassett, that on Greek art, marked a new departure in the work of the department at the summer session, namely, the offering of an opportunity for work in classical archæology in the narrower sense of the term. Courses in epigraphy have been given at summer sessions in the past, but there has been no previous opportunity to take a course dealing directly with the tangible remains of classical civilization, with the works of form and substance surviving from classical times, as distinct from the linguistic and literary remains of the Greeks and Romans.

Professor Lockwood gave two courses, "Latin for teachers" and "Life and works of Horace," at the Harvard summer school.

Dr. Shear was unable to continue his excavations at Loryma during the past season, owing to the total lack of labor on the Anatolian coast, due to the heavy war levies and the formation of an unlimited militia coast guard. He employed his time, consequently, in visiting many ancient sites, of which the more notable were Lindos in Rhodes, and Telmessos in Lycia, and he succeeded in acquiring a number of interesting antiquities.

Department of Economics

The book of Professor V. G. Simkhovitch, "Marxism versus socialism," is being translated both into German and into Russian. A French translation of Professor Seligman's "Essays in taxation" has just appeared in two large volumes.

Two exchange professors from Germany and Austria are with the department of economics: Professor Karl F. Th. Rathgen of Hamburg, and Professor Josef Schumpeter of the University of Graz. Professor Rathgen is giving a course on "Economic problems in Germany" and also a seminar, while Professor Schumpeter is giving a course on "Economic theory" and a course on "Social classes," as well as a seminar. The University is to be congratulated upon having such distinguished representatives of economic thought with them. In addition, Professor Wesley C. Mitchell, formerly of the University of California, is giving an advanced course on "Types of economic theory" and is also taking part in the seminar.

Professor Seligman made the presidential address at the National Tax Conference in Buffalo on October 23–26, and has been reelected president for the ensuing year.

In the summer session courses were given by Professor Roswell C. McCrea, of the University of Pennsylvania, as well as by members of the Columbia staff.

Department of Electrical Engineering

The most interesting item of news concerning the work of the department of electrical engineering is the fact that of the eighteen naval officers detailed to Columbia University for post-graduate work in engineering, nine are registered in electrical engineering and two in radio-engineering. These men are taking post-graduate work, the electrical engineers devoting most of their time to courses in electrical engineering and a portion to courses in mechanical engineering, while the radio-engineers divide their time between Professor Pupin's research laboratory and courses in the department of electrical engineering. One new course has been instituted during the last year, namely, Electrical Engineering 5, a lecture course in alternate current engineering given to fourth year civil engineering students, which is intended to make their work in the alternating current laboratory more easily understood.

The second year electrical engineers have been separated from the remainder of the class in Electrical Engineering 2 in order to relieve the size of classes in Mechanics 102, and incidentally one hour per week has been added to Electrical Engineering 2 for electrical engineers. In Electrical Engineering 52, design of direct current machinery, the students have been taken to the factory of the Crocker-Wheeler Company early in the course, where they have seen in process of manufacture the apparatus of which the course treats. In Electrical Engineering 108, plant visitation to the fourth year electrical engineers, a visit was made to the Schenectady factory of the General Electric Company as well as to the factory of the Crocker-Wheeler Company. A night course, corresponding to Electrical Engineering 1 and 2, was given for two nights a week throughout the whole year and was attended by nineteen students the first term and thirteen students in the second term. No credit was given for this work, the students attending purely out of interest in the subject. During the absence of Dr. Wills on leave, Mechanics 108, theory of dynamo and motor, was given by Professor Morecroft.

The only changes in the staff are the result of the resignation of the two assistants, Messrs. Graetz and Stavely, to accept positions with the Crocker-Wheeler Company, and the appointment of Mr. B. P. Hamilton, E.E. Columbia 1913, A. S. Hill, E.E. Polytechnic Institute of Brooklyn 1911, and E. H. Armstrong, E.E. Columbia 1913, to be assistants for the year 1913–1914.

Several important pieces of apparatus have been added to the laboratory equipment of the department. The laboratories have been simplified by the removal of various pieces of apparatus which, although useful, have not been of sufficient service to warrant their occupying valuable floor space. On account of the large number of men working in the laboratories at one time, it has been found necessary to remove every piece of apparatus that is not absolutely essential to the work. In line with this policy the museum of the department of electrical engineering has been practically abolished in order to make room for the new engineering library, which is considered to be of greater value.

During the past year, under the contract with the Department of Water Supply, Gas and Electricity, there have been tested forty-eight meters and two hundred and thirty-six devices. Among the devices were fifteen different types of arc lamps, which were given a life test to determine their suitability for purchase by the city.

During the past year Professor Morecroft published his book, "A laboratory manual of alternating currents," which serves as a text-book for the fourth year students in electrical engineering. Thus three out of the five laboratory courses given by the department are fully covered by text-books already published, while Mr. Hehre has collected material for a book covering the fourth course. During the summer Professor Arendt completely revised and largely rewrote his book on "Electric motors." He also invented and developed a generator for railway train and automobile lighting. Professor Slichter has completed the chapters on design of electrical machinery for a new handbook which will appear this fall and will be used as a reference book for all courses on design in the department.

Professor Slichter lectured before the post-graduate engineers of the Navy at Annapolis on "The application of electric propulsion to naval vessels." He was retained for the summer by the General Electric Company to investigate and report on a scheme for the electrification of one hundred miles of the main line of the Chicago, Milwaukee and St. Paul Railroad.

Of the graduating class, four men were offered positions in the General Electric student course, two accepting; and three men were offered positions in the Westinghouse student course, one accepting. Most of the men are placed, the exceptional men having had two or three opportunities, while each man has had a definite offer. Several of the third year electrical engineers obtained positions for the summer with the large companies.

DEPARTMENT OF ENGLISH AND COMPARATIVE LITERATURE

The opening registration shows a total of two hundred and forty-seven graduate students in English and comparative literature; of this number one hundred and seventy-seven are candidates for a degree in the department. There are five hundred and fifteen students enrolled in the twenty-five courses and thirty-three in the five seminars, an average registration of eighteen students for each course. The number of graduate students registered in the summer session was two hundred, a gain of more than one hundred per cent. over last year. Of these, one hundred and seventeen indicated English or comparative literature as the subject of major interest.

Dr. Rupert Taylor has been appointed instructor in English in Columbia College. Dr. Taylor is a graduate of the University of Arkansas, 1903; he received the A.M. degree from Columbia in 1906, and the Ph.D. in 1911.

The following former students have been recently appointed to the positions stated: Hugh R. Brower, A.M. 1913, head of English department, College of Emporia; Marion F. Brown, A.M. 1913, instructor, Montana State Agricultural College; John J. Carney, A.M. 1913, teacher of English, Newman School, Hackensack, N. J.; David L. Clark, graduate student 1912–13, instructor, University of Maine; Donald L. Clark, A.M. 1912, instructor, Hebrew Technical Institute, New York City; A. Pearl Cooper, graduate student 1912–13, dean of women, Beloit College; Grace Delano, A.M. 1913, teacher of English, Eastern District High School, Brooklyn; Victor O. Freeburg, A.M. 1908, instructor, Haverford College; Will T. Hale, A.M. 1912, instructor, Indiana University; Alonzo C. Hall, A.M. 1913, instructor, Columbus High School, Georgia; Ernest G. Hesse, A.M. 1912, instructor, Iowa State Agricultural College; Helen D. Hough, graduate student 1912–13, teacher of English, Delta College Preparatory School, Greenville, Miss.; May Leland Hunt, Ph.D. 1912, instructor, Wellesley College; Gertrude S. Kingsland, A.M. 1913, dean of Albert Lea College, Minnesota; Mamie J. Lewis, A.M. 1912, instructor, Martha Washington College, Abingdon, Va.; Mary B. McGavock, A.M. 1913, instructor, St. Mary's College, Dallas, Tex.; Fannie McLane, graduate student 1911–13, teacher of English, Julia Richman High School; Catherine F. Maclachlan, graduate student 1907–12, lecturer in English, University College, Toronto; Julia P. Mitchell, A.M. 1904, Canton Christian College, China; Florence M. Nicholson, A.M. 1912, dean of women, Grand Prairie Seminary, Orange, Illinois; Agnes M. Shaw, A.M. 1913, director, International Institute for Young Women, New York City; Mary A. Shouse, A.M. 1913, head of English department, Greenville Female College, South Carolina; Dorothy A. Spear, A.M.

1913, teacher of English, Freehold High School, New Jersey; Clarence D. Stevens, A.M. 1907, professor, University of Cincinnati; Alwin Thaler, graduate student 1912–13, instructor, Northwestern University; Alfred H. Upham, Ph.D. 1908, professor, Miami University; William H. Vann, A.M. 1909, professor, Howard Payne College, Brownsville, Texas; George F. Whicher, A.M. 1911, instructor, University of Illinois; Robert C. Whitford, A.M. 1913, instructor, University of Maine.

Department of Geology

The summer field work with the third year students in the School of Mines and the graduate students was given from Kingston, N. Y., as a headquarters the first week in June. The party numbered fifty. All were greatly benefited by the study of the remarkable folds and faults in this famous old district for the production of natural rock cement.

In the regular summer session Professor Grabau gave courses in stratigraphical geology and paleontology. The work was successfully conducted and as a result several of the students have continued in further work during the regular year. Minor courses in related subjects were taught by Professor A. C. Boyle, Jr., of Wyoming State University, and by Mr. F. E. Burr and Miss O'Connell of Columbia University.

Professor Grabau has just brought out an important work of one thousand one hundred and fifty pages upon the "Principles of stratigraphy." The book covers much of the instruction given to advanced students in the last five or ten years and will serve as a text-book in some of our higher instruction. Professor Grabau has also received copies of the following two important papers by him: "Ancient delta deposits of eastern North America" in the Bulletin of the Geological Society of America and "Paleontology of the Dundee formation in southern Michigan" from the Report of the State Geologist of Michigan. These publications will be listed in the Contributions from the Department of Geology

Professor Johnson gave courses in physiography in the summer session which were well attended. He also provided large general audiences with popular lectures on attractive topics in his special line of work. He has continued the preparation of his report upon the stability of the Atlantic Coast in recent times, a valuable contribution which is being prepared with the support of the Shaler Foundation at Harvard University.

Professor Berkey continued work during the summer upon his reports for the State Geologist upon the Tarrytown and West Point quadrangles. He interrupted these by attendance upon the International Geological Congress which met in Toronto, Canada, on August 7. Before the meeting Dr. Berkey took part in a very attractive excursion across the ancient formations of eastern Ontario. Subsequently he visited the asbestos region of Quebec. Valuable collections for the equipment of the department were obtained by him. Dr. Berkey's many friends among the alumni will be gratified to know that at the opening of the year the trustees promoted him to the grade of associate professor. He has continued his work as consulting geologist to the Board of Water Supply of New York City.

Professor Kemp also attended the Geological Congress. Before the sessions he took part in an excursion to Sudbury, Cobalt and Porcupine, collecting in each mining camp valuable additions to the equipment of the department. He also was a member of a party which visited the interesting exposures in the vicinity of Montreal. Igneous rocks of unusual character are here developed. Just before the Congress opened in Toronto and while the delegates were in Montreal, McGill University held a special convocation at which the honorary degree of LL.D. was bestowed upon five delegates to the Congress. They were in a way representative of five nationalities and were: Professor Helge Baeckstroem of the University of Stockholm, Sweden; Professor Alfred Bergeat of the University of Königsberg, Germany; Professor Alfred Harker of Cambridge University, England; Professor J. F. Kemp of Columbia University, and Professor Alfred Lacroix of the Jardin des Plantes, Paris.

During the sessions of the Congress in Toronto a special afternoon was devoted to the discussion of the persistence of ore in depth. The exercises were opened by a paper by Professor Kemp upon this important topic to the mining industry.

The department has been able to place its graduate students of last year as follows: Mr. F. F. Hintze, who received his Ph.D. at Commencement, is now assistant professor of geology in Lehigh University. Mr. Charles R. Fettke, who should receive the Ph.D. degree in January next, is assistant professor of geology in the Carnegie Institute of Technology, Pittsburgh, Pa. Mr. G. J. Mitchell entered the Geological Survey of the State of Oregon in June and becomes an instructor in the State University with connections on the Survey. The U. S. Geological Survey claimed Mr. Ralph Howell and Mr. T. Y. Wang.

The department opens the year with a very gratifying number of graduate students—rather more, in fact, than have ever been registered before. The custom is growing for mining engineers who have had some years in practice to return for a year's work in geology.

DEPARTMENT OF GERMANIC LANGUAGES

In the summer session twenty-one courses were offered by Professors Hervey, Tombo, Remy, Braun, Dr. Porterfield, and Messrs. Schulze, Palmblad, Bach, Hauch and Scholz. Seven of the courses, including a proseminar, were open to graduate students. The general course on the history of German literature from the earliest times to the rise of the Romantic school was divided, the first part only, leading to the Reformation, having been given this summer. The second half, from the Reformation on, is to be offered in the summer of 1914. There were altogether three hundred and eighty-eight registrations in the summer session courses.

Professors Remy and Braun will be absent on leave during the second half-year. Professor Remy's course on "The German of today" will be taken over by Professor Heuser, who is also offering a new graduate course in German on "Heinrich von Kleist und seine Stellung in der Entwicklungsgeschichte des deutschen Dramas." Professor Tombo is offering two new proseminars, one in the first half-year on Hermann Sudermann, the other in the second half-year on Conrad Ferdinand Meyer. The seminar deals in the first half-year with "Gottfried von Strassburg's Tristan," Professor Remy, and in the second half-year with "Herder and the Storm and Stress," Professor Thomas. The latter is offering a Saturday morning course on Faust in extension teaching. The total registrations in the department on October 21 were as follows: Barnard College, 344; Columbia College, 291; Teachers College, 203; extension, 199; Columbia University, 196; total, 1233.

Leonard Charles Van Noppen, Queen Wilhelmina lecturer, is offering two courses in Dutch, one an elementary course in the language, and the other a course on the history of Dutch literature. On October 24 he delivered a lecture at the University under the auspices of the Germanistic Society of America on "The Renaissance in Dutch literature."

Professor Thomas addressed the Woman's Club of Orange at East Orange, October 8, on German Romanticism. On September 19 Professor Tombo lectured under the auspices of the Oberschulbehörde of

Hamburg on American universities, the lecture having been arranged by Senator Werner von Melle in connection with the plans to organize a university in that city. Under the auspices of the New York Department of Education Professor Tombo delivered a course of lectures on "Great German writers" at the Harlem Branch of the Young Men's Christian Association in October. He also gave lectures on Goethe and Schiller in Brooklyn, and delivered the formal addresses at the celebrations in commemoration of the Battle of Leipsic held in the Liederkranz Club on October 18 and at Passaic (Deutsch-Amerikanischer Central-Verein) on October 24. On November 2 he addressed the congregation of St. Mark's-in-the-Bouwerie on "The subjective element in the works of Gerhart Hauptmann," on November 7 he delivered an illustrated lecture under the auspices of the Deutscher Verein of Montclair on the Nibelungenlied, and on November 18 he spoke under the joint auspices of the Germanistic Society and the Board of Education at P. S. 59 on "Ossian in der deutschen Litteratur." Dr. Ernst Richard gave a course of eight lectures on "How they do things in Germany and why" at the Hamilton Grange Branch of the New York Public Library in October and November.

Dr. Ludwig Fulda of Berlin delivered a lecture under the auspices of the Germanistic Society of America on November 5 in the Horace Mann Auditorium on the subject of "Shaksperes Lustspiele und die Gegenwart." A reception was tendered to Dr. and Mrs. Fulda, Professor and Mrs. Rathgen, and Professor Schumpeter at the Deutsches Haus on November 11. An exhibit of a complete collection of the etchings of Heinrich Vogeler was arranged in connection with the reception.

Department of History

Professor Shepherd is absent on leave. He is spending most of his time in China and Japan, studying the historical geography of those countries. His courses are being given by Mr. Roscoe R. Hill. Mr. Hill was in Spain from 1911 to 1913 preparing a general guide to the Archives of the Indes for the Carnegie Foundation. During the past summer he gave a course in Spanish history at the University of California.

Professor Shotwell delivered an address in November at Vassar College on "Social history." Professor Hayes addressed a gathering of the History Teachers Association of the Middle Atlantic States and Maryland at their regular meeting held in Syracuse in April, on "The propriety and value of the study of recent history." He also lectured before the Graduate History Club of Yale University on "Recent tendencies in European history." Professor Schuyler delivered an address at the unveiling of the statue of Jacob Leisler at New Rochelle, on the occasion of the two hundred and twenty-fifth anniversary of the founding of that city by the Huguenots. He also addressed the Patriotic Society of America at their autumnal meeting held at the Waldorf-Astoria Hotel on October 29, on "The political training of the immigrant voter." Mr. Dixon Ryan Fox, who has been advanced to the rank of instructor in Columbia College, is delivering a course of six lectures for the Board of Education on "Social life in the Middle Ages."

Professor Schuyler offers a new College course during the first semester on the development of the English Constitution. A new course is being given in the School of Journalism by Mr. Kendrick on recent American history.

History A has been divided into three parts. A 1 and 2 is a survey of Europe in the later middle ages and modern times. It is given in the College by Professors Hayes and Schuyler, Dr. Humphrey, and Mr. Fox, and in the School of Journalism by Mr. Kendrick. Professor Hayes has prepared a new syllabus for use in this course. A 7 and 8 is a survey of the ancient world, and is given by Dr. Humphrey. A 9 and 10 is a survey of American history. Professor Schuyler and Mr. Fox give the instruction in this course, a syllabus, recently prepared by Professor Schuyler, being used.

DEPARTMENT OF LARYNGOLOGY

The new medical curriculum provides for carrying two sections at a time through a course of ten lessons in laryngology, each section having two lessons per week. The class is divided into sixths and thus section teaching will be completed during the first half of the year, instead of, as heretofore, continuing throughout the year. During the second half of the year Professor Simpson will give his lectures, and an optional course has also been offered. The facilities of the department have been increased by the use of the beds in the new wards on the second floor of the Vanderbilt Clinic, where cases may be cared for after operations.

DEPARTMENT OF MATHEMATICS

In course of the summer two instructors, Dr. L. L. Dines and Dr. N. J. Lennes, resigned, the former to accept an associate professorship of mathematics and to be acting head of the department in the University of Arizona, and the latter to accept a professorship of mathematics and to be head of the department in the University of Montana. Mr. L. G. Mullins, professor of mathematics at Simmons College, on leave of absence to study mathematics at Columbia, was appointed instructor to succeed Dr. Dines; and Mr. J. N. Northcott, assistant professor at Syracuse University, on leave of absence to study at Columbia, was appointed instructor to succeed Dr. Lennes. Mr. Louis Gordon (A.M. Columbia 1913) resigned his instructorship in extension teaching to accept a position in a high school in Philadelphia. His place has been filled by the appointment of Mr. Walter E. Curt. Mr. L. T. Wilson, two years a graduate student and last year an assistant in the department, has been appointed instructor in mathematics at Harvard University. Dr. Nathan Altschiller (Ph.D. University of Ghent 1911), during 1912–13 graduate student at Columbia and instructor in extension teaching, has been appointed instructor in mathematics at the State University of Washington. Mr. L. L. Smail, who was last year fellow in mathematics and who received the doctorate at the last commencement, has also accepted an instructorship in the University of Washington. Mr. L. G. Simpson (A.M. 1913) has been made assistant professor of mathematics in State College, State College, Pa. Dr. Henry Blumberg, once a fellow and for some time graduate student at Columbia, has accepted an instructorship in mathematics at the University of Nebraska. Mr. W. C. Krathwohl (Ph.D. Chicago 1913), formerly instructor and student at Columbia, has accepted an assistant professorship of mathematics in Ripon College.

Instruction in the summer session of 1913 was given by Professors Fite, Grove, Kasner, Keyser, Maclay and Siceloff and by Doctors Dines, Fischer and Reddick, and Mr. Mullins. The total attendance upon mathematical courses at this session was four hundred and fifty-five, as against two hundred and forty-nine in the preceding summer. Five graduate courses given in the summer session were attended by between ten and thirteen students each, the majority of whom were men. In course of the summer three students completed the scientific requirements for the master's degree and one student, Mr. L. M. Kells, for the degree of doctor of philosophy. The subject of Mr. Kells's dissertation is "The complete characterization of dynamical trajectories in *n*-space."

The mathematical colloquium of the officers and advanced students, which has been an institution of the department for nearly a score of years, was organized for the current year early in October with Professor Fiske as secretary. The meetings, which all graduate students are expected to attend, are held at intervals of about two weeks. Each officer of full professorial rank presides at one or more of the meetings in course of the year. At the opening session, October 13, Professor Keyser addressed an audience of about one hundred students and officers on "The study of mathematics," The address will be published in a future number of the QUARTERLY. The number of students attending one or more graduate courses is eighty-five, an increase of twelve over last year.

By the initiative of Professor Grove and Dr. Lennes, there was established in the department three years ago an institution known as the junior colloquium, designed to bring together periodically for the discussion of mathematical questions beyond the regular class-room work the abler students in Columbia College and their instructors. The bi-weekly meetings of this colloquium have been well attended by undergraduates and by first-year graduate students. Attendance and participation in the activities of the junior colloquium are entirely voluntary. Professor Hawkes, who served as leader in this colloquium last year, is serving in the same capacity during the current year. At the first meeting, October 15, Professor Mitchell spoke on "The logarithmic spiral."

In course of the year 1912–13 Professor Fite published a "College algebra" and a "First course in algebra" (Heath). At recent meetings of the American Mathematical Society Professor Kasner presented papers entitled, "Classification of analytic curves in conformal geometry" and "Does the ratio of the arc to the chord always approach unity?" Professor Kasner expects to spend the second half of the year in France and Italy. The University has set apart room 316 of University Hall as an office for the American Mathematical Society. The Council of the Society will hold its meetings there, and the room will be used by Professor Cole as an administrative and editorial office.

DEPARTMENT OF MINING

During June and July thirty-four students were engaged in field study and practice (Mining 58 and 59). The work began with one week of underground surveying in a colliery at Hazleton, Pa., after which the class was divided into small squads and assigned to some nineteen mines in different parts of the country, where they spent from six to nine weeks in observation, note-taking and sketching. Besides these, six students received full or partial credit for this course, for work done previously in the field. After the specified requirements were fulfilled, several members of the class obtained temporary positions for the remainder of the summer, in the mines at which they had studied.

A large proportion of the sets of notebooks presented for criticism to the department of mining were of excellent quality. The thanks of the students and staff of the School of Mines are due to the superintendents and other officers of the mining properties visited for the valuable privileges afforded for carrying on this useful field practice (for further details, see *School of Mines Quarterly,* November, 1913).

Through the liberality of Mr. C. W. Hodge of Roxbury, Conn., the mining department has obtained the right to use the old mine workings on Mine Hill for the instruction of students in underground surveying. This mine was first opened 150 years ago as a lead mine and about 50 years ago was worked on a large scale as an iron mine. The mine is located near the top of Mine Hill about three quarters of a mile north of Roxbury Station, and four hundred feet above the Shepaug River. The mine is opened by three tunnels and numerous shafts, and there are three levels, five hundred to one thousand feet long, ten shafts, and a number of large stopes available for surveying work. The vein is nearly vertical, so that the workings are eminently well adapted to illustrate the more difficult problems of mine surveying and shaft plumbing. The deposit is a fissure vein with walls of gneiss. The vein filling is quartz and siderite (iron carbonate) and contains galena (lead sulphide) and blende (zinc sulphide).

The mine can be made a very safe one as the walls are generally very solid. In a few places the old workings will have to be retimbered before the mine can be used for the survey work of the students. It is purposed to do this retimbering next summer and it is probable that a few mining students may be given opportunity to gain experience in shaft-sinking and drifting in loose ground and in mine timbering during the progress of the work.

Department of Music

There are one hundred and thirty registrations in music this fall. Two new courses have been added: the first course in history is being repeated for women, and a new graduate course, entitled "Orchestration and symphonic form," has been instituted by Professor Rubner.

Professor Mason will be absent, on leave, for the entire year. His courses in history are being conducted by Mr. Leland Hall of Boston, and those in theory by Mr. Ward.

The concerts heretofore given under the auspices of the department of music, have been taken over by the newly organized Institute of Arts and Sciences. The only concerts to be given by the music department will be two devoted to original compositions by students of the department.

The department has received recently a very fine collection of music and music text-books—the gift of Dr. James Peck.

Professor Rubner spent the summer in Germany, Italy and Austria, where he heard many new works. At Freiburg he played his Meistersinger, Tristans Liebestod, Wotan's farewell and magic-fire scene, Siegmund's love song and Siegfried's funeral march transcriptions for the Welte Piano. On October 26 he played the Grieg concerto with the Scandinavian Symphony orchestra.

Department of Pathology

Professor MacCallum was in Europe during the summer and read papers at the International Congress of Medicine in London. Dr. J. B. Jobling has been appointed assistant professor of pathology. Dr. Calvin B. Coulter has been appointed externe pathologist and Dr. E. B. Stillman serologist to the Presbyterian Hospital. Dr. Sittenfield has been made instructor, and Dr. F. W. Field has been made assistant in the department.

Department of Pharmacology and Therapeutics

Dr. Walter A. Bastedo attended the International Congress of Medicine in London in August, and spent some time studying the therapeutic methods in vogue at the various mineral spring resorts in France. His book "Materia medica, pharmacology and therapeutics" was published in October by the W. B. Saunders Company.

College of Pharmacy

Vacation courses were conducted by all of the departments during the summer, the total summer enrollment being thirty-two. At the supplementary examinations held in September, fifty-eight candidates presented themselves.

Ninety-nine students found employment in drug-stores during the summer, the demand for clerks, whose average salary is from eight to twelve dollars a week, being far greater than the supply.

The total number of students enrolled this fall is four hundred and sixty-two, distributed as follows: First year University class 26, second year University class 35, first year College class 261, second year College 132, post graduates 5, food and drug course 3. In addition, one of the doctors of pharmacy of last year is enrolled as a research student. While the first year University class is smaller than it was last year, its size is quite encouraging in view of the marked advance in entrance and other requirements which became operative this year.

The new six-year University course leading to the degree of doctor of pharmacy is exciting much attention in pharmaceutical circles both in this country and abroad. Recent issues of the *Pharmazeutische Post* of Vienna and of the *Schweizerische Wochenschrift für Chemie und Pharmazie* make highly favorable comments, the latter journal characterizing the course as practically the first attempt to place pharmaceutical education upon an equal footing with other university courses.

At the meeting of the New York State Pharmaceutical Association held in June, the College faculty was represented by Dean Rusby and Professors Diekman, Mansfield and Arny; while Dean Rusby and Professors Mansfield and Arny attended the Nashville meeting of the American Pharmaceutical Association. The Conference of American Pharmaceutical Faculties, meeting at the same time, took a forward step by resolving that the entrance requirement demanded of all candidates for all pharmaceutical degrees (other than graduate in pharmacy) be high school graduation or its equivalent.

In the department of materia medica, a special biological laboratory has been equipped; in the department of pharmacy, a new course in commercial pharmacy has been started and much new demonstration and laboratory material has been secured, while in the department of chemistry a course in chemical crystallography—the first recorded in pharmacy work—has been inaugurated. For this course excellent equipment—including a goniometer and glass crystal models—has been provided.

The increase in the number of women who are taking up the study of pharmacy is plainly indicated by our registration lists. This year there are thirty women students; in 1912 there were sixteen, in 1911 nine, and in 1910 six.

The library has received another large donation of current books on pharmaceutical and allied subjects from Mr. George Massey, and a number of periodicals from Mr. Ernest Stauffen.

During the summer another payment of five thousand dollars was made on the principal of the mortgage held on the College property, thus reducing it to eighty thousand dollars.

Department of Philosophy

In the absence on leave of Professors Wendell T. Bush and George S. Fullerton, courses are to be given during the first half-year by Professor Harry Allen Overstreet, of the College of the City of New York, and the Reverend Father Cornelius Clifford, Rector of Our Lady of Mercy, Whippany, New Jersey. Father Clifford's course on Scholasticism is one that is rarely given with so sympathetic an understanding as he is able to bring to it.

Emile Boutroux, member of the Academie Française and president of the Fondation Thiers, who came to America to take part in the opening of the graduate school at Princeton University, delivered a lecture before the department on the afternoon of October 24. The Reverend Hastings Rashdall, of New College, Oxford, gave an address on November 11, on "The permanent significance of the *logos* doctrine."

The department began again on October 6 the conferences of graduate students and officers which, during the past three semesters, have proved an efficient method of bringing the faculty into closer touch with the students and of encouraging the latter to independent thinking and cogent defence of their positions. The conference meets fortnightly, and is attended by all the candidates for the higher degrees whose major or minor subjects are in philosophy.

In the College the work of the men who are taking honors in philosophy has been systematized. It is divided into three parts: summer reading with written reports; reading and reports paralleling courses; and bi-weekly conferences on selected classics in philosophy. In these conferences each student prepares and defends one paper a semester. Each student works under the direction of one of the several members of the staff who attends the meetings. This arrangement really provides a tutorial system for the honors men. The results of the first summer's work have been very encouraging.

Department of Physiology

Professor Lee has been appointed one of the six members of the New York State Commission on Ventilation. This Commission was established through the influence of the New York Association for Improving the Condition of the Poor. A liberal sum of money has been appropriated and an extensive experimental investigation is being made of the scientific principles on which ventilation should be based. Professor Burton-Opitz has been elected the national president of Alpha Omega Alpha, the fraternity which bears toward the medical schools a relation similar to that of Phi Beta Kappa toward the colleges. A report on the joint research of Professor Pike and Dr. J. Gordon Wilson on "The mechanism of labyrinthine nystagmus and its modification by lesions in the cerebellum and cerebrum" was presented by Dr. Wilson before the section in otology of the International Congress of Medicine in London in August. Dr. H. B. Williams spent a great part of the summer in New York engaged in electrocardiographic and other investigations with the string galvanometer. Dr. H. E. B. Pardee has been appointed instructor in physiology, *vice* Dr. Bingham. During the summer session, courses in advanced and elementary physiology were given by Professor Pike and Mr. Scott, respectively.

DEPARTMENT OF PRACTICE OF MEDICINE

Professor Theodore C. Janeway attended the triennial congress of American Physicians and Surgeons in Washington, May 6–7, and read a paper in the symposium on "The study of renal function." He also presented a paper on "The clinical study of hypertensive cardiovascular disease" before the Association of American Physicians. At the meeting of this Association also, Dr. Longcope spoke on "Cirrhosis of the liver produced by chronic protein intoxication." Professor Janeway was a delegate from the United States to the Seventeenth International Congress of Medicine in London, August 6–12, and presented before the section on therapeutics a report on "The comparative value of cardiac remedies." Other members of the department who participated in the Congress in London and their subjects were Professor Longcope on "The production of experimental nephritis by chronic protein intoxication"; Dr. Emerson on "Status lymphaticus in adults: its clinical diagnosis and importance"; and Dr. Libman on "A study of subacute bacterial endocarditis (chronic malignant endocarditis) with special reference to cases in the bacteria-free stage." Dr. T. S. Hart recently read a paper before the New York Academy of Medicine on "Blood pressure in auricular fibrillation."

The summer course in clinical pathology was given, as heretofore, by Professor Vogel. Thirteen students took the course, of which five were women.

Department of Psychology

An innovation in our summer session work was the Psychological Club, which met one evening a week to hear reports of research work, etc., from its members. It was found that the teaching staff in psychology and related subjects, together with advanced students, made up a group of considerable size, and the experiment proved wholly successful.

Lectures and addresses have been delivered by Dr. Hollingworth before the National Federation of Trade Press Associations (September 19) on "Applications of laboratory methods to business problems"; at the exhibit of the Clearing House for Mental Defectives (October 11) on the "Present status of tests as an aid in the diagnosis of mental deficiency"; and before the College of Pharmacy (October 21), on "Examples of the practical value of a knowledge of psychology."

Department of Public Law

Professor Beard, whose "Economic interpretation of the Constitution" (The Macmillan Company) came from the press in April, has undertaken a revision of his volume on "American government and politics," the original edition of which has been exhausted.

Dr. Arthur K. Kuhn, who is giving a course in "The conflict of laws" during the absence of Professor J. B. Moore, has been called to deliver a special course of lectures at the University of Zurich in the summer semester of 1914. His subject will be the comparison of Anglo-American jurisprudence with the jurisprudence of continental Europe.

The number of undergraduates attending courses offered by the department shows a marked increase. Including Barnard College and extension the enrollment now exceeds three hundred.

Department of Romance Languages

By decree of the President of the French Republic, Professor Cohn has been made an Officer of the Legion of Honor; he had been made a Knight of the order in 1900.

By arrangement with the University of Paris and the University of Public Instruction of France, Mr. Louis Bourquin has been designated visiting lecturer on French Literature in Columbia University for the year 1913–1914. Mr. Bourquin entered the Ecole Normale Supérieure in 1907, receiving his degree of *Licencié ès-Lettres,* in 1908, his *Diplôme d'Etudes Supérieure,* in 1909, and became *Agrégé des Lettres,* in 1910. In 1911–1912 he held a professorship in the *Lycée* of Mâcon, and was then given one of the Kahn fellowships of the University of Paris, for travel around the world. He reached New York at the beginning of the academic year, after visiting Persia, India, China and Japan. His courses are devoted a) to the French drama of the 18th century, and b) to L'explication d'auteurs français.

The Romance Club resumed its meetings October 14. Professor Emile Boutroux, member of the Académie Française, addressed the Club on October 24, taking as his subject, "La Fondation Thiers," of which he is the director. The address was followed by a reception. On November 11 the Club was addressed by Professor Jean Perrin, of the Faculty of Sciences of the University of Paris, visiting French professor in Columbia University. Professor Perrin spoke of problems of secondary education in France.

Two public French lectures were given under the auspices of the department: on November 6, by Doctor Bernard Taft, of Paris, on "Anatole France, romancier de la révolution française," and on November 13 by Mr. Paul Vitry, Conservateur-Adjoint du Musée du Louvre, on "Houdon, the sculptor" (illustrated).

During the summer Professor Cohn addressed the Thursday Morning Club, of Great Barrington, Massachusetts, on the political situation in France. On October 18 he addressed the Société Nationale des Professeurs Français, speaking on the establishment of exchange professorships between the French and American universities. On October 2 he began a course of eleven lectures in the Morris High School on "Epochs in medieval and modern history." In the latter part of August, Mr. E. J. Fortier delivered a course of five lectures on "The French drama of the nineteenth century" before the Catholic Summer School of America, at Cliff Haven, N. J. Professor Loiseaux delivered in October, November and December, a number of illustrated lectures on France and Spain, in several of the lecture centers of the Board of Education of this City.

Professor Raymond Weeks has been asked to serve as one of the three American secretaries of the newly founded International Society of Experimental Phonetics, whose headquarters are at Turin.

Mr. P. A. Chapman, fellow 1912–13, has been appointed instructor in Romance languages in Princeton University. Miss Lucile Alexander, A.M. 1913, has been appointed professor of Romance languages at Agnes Scott Institute, Decatur, Ga. Miss Luella Johnson, a graduate student in Romance languages, has accepted a position to teach

French in the Jersey City High School. Miss Margaret C. Richey, A.B. 1913, is teaching French and Latin in the High School, Memphis, Tenn. Miss Mary M. Galt, A.M. 1913, is in charge of French in the High School at New London, Conn. Miss Sophie Holz, A.B. 1913, is in charge of French and German at Waynesburg College, Waynesburg, Pa. Miss Pauline Latzke is teaching French in the Hamilton Institute for Girls, 89 West End Avenue, New York. Mr. Henri C. Neel, A.M., is French master in the Morristown, N. J., Academy. Mr. Mark Skidmore, A.M., resigned his position at Dartmouth College to accept an assistant professorship in Romance languages at the University of Kansas. Miss Armarella Black, A.M. 1912, has been appointed teacher of French in Adelphi College, Brooklyn, N. Y. Mr. A. M. Cohn-McMaster, A.M. 1912, has been appointed instructor in Romance languages in Dartmouth College, Hanover, N. H.

Department of Social Economy

The seminars in social economy and in social legislation have been combined this year. The masters' division of the combined seminar, with a membership of about twenty, is working on the subject of social insurance. In the doctors' division there are eleven students. Among the subjects on which they are working are: The county jail, internationalism as a social force, public out-door relief, minimum wage legislation, state care of the blind, problems in the organization of factory inspection, moving picture legislation, the control of prostitution, benefit features of lodges among the Hebrews.

The School of Philanthropy began the year in enlarged quarters on the top floor of the United Charities Building. In his annual report for the year 1912–13 the director calls attention to the substantial progress which has been made by the School in five particulars: (1) the addition of Porter R. Lee, Henry W. Thurston, Kate Holladay Claghorn, and George E. Johnson to the permanent staff, all giving their entire time to the work of the School; (2) the thorough revision of the curriculum; (3) the requirement of two full academic years of resident study for the diploma; (4) the care taken to secure students of essentially graduate caliber of mind and experience, even though they may not have had a full undergraduate course; and (5) the closer alliance with the work of various philanthropic agencies of the city and municipal departments.

One of the courses in the regular first-year curriculum is of special interest to persons who wish a general idea of the scope and nature of social work and the personalities of leaders. The program of the first term consists of six five-lecture courses by Homer Folks, George E. Johnson, Mrs. V. G. Simkhovitch, Gaylord S. White, Orlando F. Lewis, and I. M. Rubinow. In the second term individual lectures will be given on the work of important organizations, by the executives of those organizations. Among those who are expected to take part in the course are Jane Addams, William H. Allen, Ernest P. Bicknell, Katherine B. Davis, Livingston Farrand, John M. Glenn, Mrs. Glenn, Florence Kelley, John A. Kingsbury, Julia Lathrop, Joseph Lee, Owen R. Lovejoy, Charles S. Macfarland, Maude E. Miner, Michael J. Scanlan, Charles P. Neill, Simon N. Patten, R. R. Reeder, Mary E. Richmond, Graham Taylor, Mary Van Kleeck, Lawrence Veiller, Lillian D. Wald, Morris D. Waldman.

DEPARTMENT OF SURGERY

Dr. Joseph A. Blake resigned in June his professorship of surgery and also the position of attending surgeon to the Presbyterian Hospital. The management of the department of surgery has been placed temporarily in the hands of Dr. George Emerson Brewer, professor of clinical surgery. Didactic lectures during the present session will be given by Professors Brewer, Adrian V. S. Lambert, Walton Martin, and Charles H. Peck, and Doctors William Darrach and Eugene Pool. Dr. Frank C. Yoemans will give a course in diagnosis and treatment of surgical diseases of the rectum in connection with the minor surgical course at the Vanderbilt Clinic.

The following hospitals will receive clinical clerks in surgery during the present session: Presbyterian Hospital, under the charge of Adrian V. S. Lambert and staff; St. Luke's Hospital with instruction by Professors Martin and Henry H. M. Lyle and their assistants; Mt. Sinai Hospital, by Professor Arpad G. Gerster and assistants; German Hospital, by Professors Frederick Kammerer and Otto G. T. Kiliani and assistants.

TEACHERS COLLEGE

Professor Monroe, of the department of the history of education, has recently returned from an extended trip in the Orient, in the course of which he studied particularly the various systems of education which are now building up as a result of the fusion of western culture and ideals with eastern traditions. In the Philippines, the visit to which was made under the auspices of the Philippine government for the purpose of investigating the educational system of the islands, Professor Monroe found some fifteen or eighteen Columbia graduates engaged in business, in professional activities, and in the government service. The location of these graduates was such, however, that a general meeting was not possible, though he was entertained by a number of them individually, among them the Columbia representatives on the faculty of the Philippine University. In China Professor Monroe visited seven of the ten leading educational centers, spending about three months visiting the institutions in and around the following cities: Canton, Hong Kong, Swatow, Amoy, Foochow, Shanghai, Soochow, Nanking, Wuchang, Hanchow, Peking, Tientsin. In Canton he was entertained by the officials of the provincial government, many of whom were returned American students; also by the native alumni of American universities. Among the government officials Mr. Peter Hing, a graduate of Columbia, held one of the most conspicuous positions, that of Chief Justice of the Supreme Court of the province. In Foochow Professor Monroe met a number of Columbia graduates, among them Dr. Sites, head of the political science department of Foochow College. Columbia representatives were found at Soochow, Nanking, Wuchow and Peking in connection with the universities at these places. In Japan Professor Monroe visited the Higher Normal School and the Mission College of Hiroshima, in each of which institutions he found four Columbia graduates. In Tokyo the Columbia University Club, which numbers forty members, gave a banquet in honor of the visiting Americans. The president of the club is a graduate of the Columbia School of Law ('69) and one of the oldest American university graduates in Japan.

The department of educational administration reports the preparation for the library of the department of a volume entitled "Field work in educational administration." In these collected papers will be found the results of investigations carried on by graduate students, under the direction of Professor Strayer, in near-by school systems during the past academic year. The department states that all the cities in which work was done last year asked that men be assigned to them for the present year, and that other superintendents asked that men undertake similar investigations in their school systems.

During the latter half of August and the month of September, Professor Dutton, as a member of the International Commission appointed by the Carnegie Endowment for International Peace, visited the Balkan States to investigate the recent war of the allies with particular reference to infractions of international law and the economic and social consequences of the war. The commission passed through many of the leading cities and towns of the Balkan States, including Constantinople and Athens, and took a large number of depositions from officers, soldiers, refugees, and others who have been sufferers. On the return of the commission, a conference was held under the direction of Baron d'Estournelles de Constant and arrangements were made for the publication of a full report of the work of the commission.

Professor Thorndike, of the department of educational psychology, has been engaged during the year past in investigations of the learning process and fatigue, some of the results having been published in the *American Journal of Psychology*. He has also compiled and organized for the Carnegie Foundation statistics of the salaries of college teachers in 1912–1913 and of the change in salaries during the past five years. Professor Ruger has been experimenting with the learning process in animals, seeking to analyze the factors concerned somewhat more elaborately than has been done. Other investigations made in connection with the department have concerned the construction of scales for measurement of achievement in spelling, by Dr. Buckingham; the disciplinary and other effects of different systems of teaching formal grammar, by Dr. Briggs; the effects of practice in the case of school children, by Dr. Kirby; and the psychology of delinquent girls and women, by Miss Bronner. Among investigations that have been begun this year are studies of the relation of length of practice period and length of interval between practice periods to economy and learning, the effect of various conditions of temperature, humidity, freshness and movement of the air upon intellectual efficiency, the psychology of habit-formation and analysis in the case of elementary science, and the construction of a scale for measuring school achievement in respect to drawing.

During October Professor Sachs was called upon by the General Education Board, Rockefeller Foundation, to address the representatives of secondary education in the south who were assembled in New York City for a week's conference. On October 2 he visited the Groton School, Massachusetts, at the request of the teaching corps of that school to address them on "The aims and functions of a private preparatory boarding school." Professor Stevens addressed the Middlesex County Teachers' Association in Boston the latter part of October and the Association of Mathematics Teachers of the Middle States and Maryland in Albany, the latter part of November.

Professor Patty Smith Hill, head of the department of kindergarten education, has been appointed educational adviser of the normal department at the Ethical Culture School, and together with two members of the department staff of the College will give courses in kindergarten education there.

During the summer Professor Smith attended important meetings at London, Heidelberg, and Göttingen. These related to the work of the International Commission on the Teaching of Mathematics and to the forthcoming seven hundredth anniversary of the birth of Roger Bacon. He also made a number of valuable additions to his library on the history and teaching of mathematics.

Professor Arthur W. Dow was represented at the National Conservation Exposition by his large picture, "The enchanted mesa of New Mexico." This was shown recently in the International Art Exhibition at Pittsburgh. At the inaugural exhibition of the James G. Averell Memorial Art Gallery of Rochester, N. Y., Professor Dow was represented by two of his paintings of the Grand Canyon of Arizona. Assistant Professor Alon Bement has painted a portrait of Mrs. Lindley M. Garrison, wife of the Secretary of War; also a portrait of Mrs. Edelbert Nevin, and of Dr. Paul Barringer, ex-president of Virginia Polytechnic Institute. Professor Bement is now working upon a portrait of the Secretary of War.

Mr. George A. Cox, A. R. C. A. Mod. of the Royal College of Art, South Kensington, London, has been appointed instructor of the classes in clay modeling, pottery, and sculpture.

Professor Cooley, who returned at the opening of the present academic year from abroad where she spent a large part of her half-year's leave of absence, visited sixty-five schools on the continent at Paris, Brussels, Berlin, Charlottenburg, Potsdam, Munich, and Rome, where work in household arts is given. The department of Household Arts Education was represented by Miss Winchell at the meeting of the American Home Economics Association held June 27–July 4 at Cornell University, Ithaca, New York. The Teachers College Alumni luncheon held on Tuesday, July 1, in the cafeteria of the new Home Economics Building, was attended by thirty-eight graduates of Teachers College with their guests. Professor Kinne presided at a Round Table at the State Teachers Association at Syracuse on Tuesday, November 25. The general subject was "Progress of household arts in the elementary schools."

The department of music and speech is conducting this year its usual series of concerts and recitals, beginning on October 22 with a student recital of Japanese and Norwegian songs and stories, and following on succeeding Wednesdays with recitals by Mr. R. N. Joliffe, Miss Searle, Miss Jones, Mr. William F. Kraft, Miss Helen Latham, Miss Jessie Macdonald, Miss Grace Daschbach, Miss Margaret Zerbe, Professor Azubah Latham, Mr. C. B. Cady, Mr. Edgar Stowell, and Mr. Dan Dickinson. Dr. Luther Gulick, Mr. William Chauncy Langdon, and Dr. William E. Bohn have taken part in the new course on school plays and festivals, which has been offered during the first half of the present year by the department.

Professor Wood attended the National Education Association Convention at Salt Lake City in July, and presented the report of the committee of the National Council of Education on health problems, of which he is chairman. During the summer he became, by invitation, a member of the new Bureau of Welfare of School Children which has been organized under the Bureau of Social Welfare.

An important addition to the staff of the department of nursing and health has been made in the appointment of Miss Annie W. Goodrich as assistant professor of nursing and health. Miss Goodrich has been inspector of training schools in New York state for several years, and was before principal successively of St. Luke's, New York, and Bellevue Training Schools, three of the most important institutions of this kind in New York. She is well known throughout this country as a leader in nursing education. Her appointment has been made possible through the generosity of Mrs. Helen Hartley Jenkins, a trustee of the College. To meet the request of the new Red Cross Rural Nursing, an attempt is being made to provide some special preparation for rural public health nurses. This the College is undertaking in cooperation with the Henry Street Settlement, the division of child hygiene of the City Health Department, and the Westchester (Rural) District Nursing Association. A small group of Red Cross nurses is already registered for this work. From the rapidly expanding field of nursing outside come continuous demands both for more trained workers and for women with more varied and more highly specialized preparation. The department has this year a definite demand for training in factory inspection—or what may be called industrial nursing. School nursing, too, has reached the stage at which quite a specialized training, apart from the regular public health nursing work, is required. The department of nursing and health has been represented by members of its staff at the meetings of the National

Organization on Nursing and Public Health held at Atlantic City in June, at the Conference on School Hygiene in Buffalo, the New York State Charities Aid Association and in other state and local organizations where addresses and papers have been given. The appointment of the director of the department of nursing and health of the College on the special Public Health Commission of New York State is a significant indication of the increased recognition of nursing as an important factor in public health work.

MISCELLANEOUS NOTES

Professor Arthur H. Blanchard and Prevost Hubbard, lecturer in highway engineering chemistry, have been delegated to serve as members of the United States Committee on Standardization of Nomenclature of Road Materials, which committee is to cooperate with the Engineering Standards Committee of Great Britain.

Mr. Franklin Matthews, of the staff of the School of Journalism, has been elected by the alumni a trustee of Cornell University to serve for a period of five years.

The General Education Board has made a gift of two hundred thousand dollars to Barnard College as a part of the fund of two million dollars which the College is endeavoring to raise.

Readers' Guide Supplement

With the discontinuance of the Annual Library Index and the Poole, libraries were left without any index to a large number of excellent periodicals. In addition, many valuable magazines have come into existence during the past few years which are worthy of being indexed. A genuine need existed for a periodical index to supplement the Readers' Guide, and it is to meet this need that The H. W. Wilson Company has undertaken to publish the Readers' Guide Supplement.

The second and latest issue of this index includes only thirty-seven magazines, of which the QUARTERLY is one, but this number will be increased to one hundred as soon as possible, the selection to be made with the aid of the subscribing libraries. The Supplement is issued bi-monthly with the omission of the July number, and each issue is fully cumulated for the year to date. Full information in regard to the subscription price will be supplied on request.

UNIVERSITY LEGISLATION

The Trustees

October meeting.—The President reported the death on September 20, 1913, of John Green Curtis, M.D., LL.D., emeritus professor of physiology.

The thanks of the trustees were tendered:

To Mrs. W. Bayard Cutting and her children for their gift of $200,000, as a memorial to W. Bayard Cutting, class of 1869, the same to be constituted the principal of the W. Bayard Cutting Fund, the income of which shall be applied towards the establishment of traveling fellowships for the benefit of students of high promise in the University.

To Mr. Joseph P. Chamberlain for his gift of $7,500, to be applied toward the legislative drafting research fund.

To Mrs. Helen Hartley Jenkins for her gift of $5,000, for equipment in aid of research in regard to wireless telegraphy and telephony.

To the anonymous donor of $2,500, a subscription to the anonymous fund for surgical research.

To the anonymous donors of the sum of $1,450, to be applied toward salaries in the department of philosophy for the academic year 1913–14.

To Mrs. Louis K. McClymonds for her gift of $1,300, for the maintenance of the Louis K. McClymonds scholarships in Columbia College for the academic year 1913–14.

To Mr. Jacob H. Schiff for his gift of $1,000, to be applied toward salaries in the department of social science for the academic year 1913–14.

To the anonymous donors of the gift of $1,000, to be applied toward salaries in the department of physiology for the academic year 1913–14.

To Mrs. James W. Gerard for her gift of $1,000, for the maintenance of the Marcus Daly scholarship for the academic year 1913–14.

To Mr. George Blumenthal, Mr. Jacob H. Schiff and Mr. Hugo Reisinger for their gifts of $250 each, Mr. Felix Warburg for his gift of $100, and Mr. Jacob Hasslacher for his gift of $50, toward the equipment and maintenance of the Deutsches Haus.

To the anonymous donors of a complete collection of the etchings of Heinrich Vogeler and a set of charcoal portrait drawings by Hannes Avenarius for the Deutsches Haus.

To the class of 1885, Mines, for their gift of $800, to be added to the Class of 1885, School of Mines, Scholarship Fund.

To the donors of the sum of $756.41, received through Mr. B. Aymar Sands, treasurer, to be added to the Alumni Memorial Hall Gift.

To the Alumni Association of the School of Architecture for their gift of $500, to be used in the purchase of books for the library of the School of Architecture.

To the Association of National Advertising Managers for their gift of $375, being the first payment on account of the sum of $1,500 to be contributed by them for the maintenance during 1913–14 of the fellowship in advertising research.

To the Alumni Association of the College of Physicians and Surgeons for their gift of $325, to be applied toward the stipend of the alumni fellowship for the academic year 1912–13.

To the anonymous donor of the sum of $250, to be applied toward salaries in the department of music for the academic year 1912–13.

To Parfumerie Ed. Pinaud for the gift of $250, to be applied toward the library equipment fund of the Maison Française.

To Mr. James Loeb for his gift of $175, to be used for the purchase of books on labor.

To Mrs. George G. De Witt for her gift of $150, to provide a special scholarship in Columbia College, for the current academic year, for a designated student.

To the anonymous donor of the sum of $175, to be applied toward the tuition fee of a designated student in Columbia College.

To the anonymous donors of the

sum of $100, to be applied toward salaries in the department of Indo-Iranian languages for the academic year 1913–14.

To Dr. T. M. Cheesman, of the class of 1874, for his gift of $30, to be added to the fund for placing the class of 1874 memorial in the Library.

Resolved, that the generous offer of Mr. C. W. Hodge to lease to the University the property near Roxbury Station, Conn., known as Mine Hill, at an annual rental of $1.00 for the use of students in the Summer School of Engineering, with permission to reopen and extend the mine workings and to establish a camp and erect temporary or permanent buildings and remove the same, terminable at any time on the repayment to the University of the amount so expended, be accepted with the thanks of the trustees.

Upon nomination of the alumni, Walter Mendelson, M.D. 1879, was elected a member of the board to fill the vacancy caused by the resignation of Mr. Lenox Smith.

The report of the Vanderbilt Clinic for the year ending June 30, 1913, was presented, showing receipts of $34,214.60 and expenditures of $28,031.50, and a total for the year of 35,552 patients and 133,359 visits.

The Treasurer presented his report for the fiscal year ending June 30, 1913.

The following resignations were accepted: Joseph A. Blake, M.D., as professor of surgery; Charles A. Strong, A.B., as professor of psychology; S. Alfred Mitchell, Ph.D., as assistant professor of astronomy.

The following appointments were made: Howard L. McBain, Ph.D., formerly associate professor in the University of Wisconsin, to be visiting lecturer during the academic year 1913–14; Josef Schumpeter, Jur.D., professor of political economy at the University of Graz, to be visiting Austrian professor for the academic year 1913–14; Bernard O. Dodge, instructor, Otto Kunkel, research assistant, and F. V. Rand and C. A. Fraser, assistants in botany; Robert P. Calvert and James Kendall, instructors; Simon Birnbaum, Karl J. Holliday, and Frank L. De Beukelaer, laboratory assistants, and Harold A. Fales and Arthur M. Buswell, instructors in chemistry; Gilbert D. Fish, assistant in civil engineering; Baxter P. Hamilton and Arthur St. John Hill, assistants in electrical engineering; Rupert Taylor, instructor in English; Fritz Berckhemer, curator in paleontology; John A. Northcott and George W. Mullins, instructors in mathematics; William B. Eddison, assistant in mechanical engineering; M. J. Sittenfield, instructor, and Cyrus W. Field, assistant in pathology; Roger B. Saylor and Clayton Ulrey, assistants in physics.

Charles P. Berkey, Ph.D., assistant professor of geology, was promoted to be associate professor of geology from October 1, 1913.

Josef Schumpeter, Jur.D., visiting Austrian professor, was assigned to a seat in the faculty of political science.

Bashford Dean, Ph.D., professor of zoology, was granted leave of absence from July 1, 1913, to January 31, 1914.

November meeting.—The President presented his annual report, which was ordered printed and distributed.

The President reported the election of St. Clair McKelway, of Brooklyn, as chairman of the advisory board of the School of Journalism, *vice* Whitelaw Reid, of New York, deceased.

The thanks of the trustees were tendered:

To the anonymous donor of $250,000 to establish a fine arts endowment fund.

To Charles Wood McMurtry, M.D., for his gift of equipment for the dermatological clinic at the Vanderbilt Clinic, at an approximate cost of $7500.

To Edwin B. Cragin, M.D., professor of gynecology and obstetrics, for his gift of equipment for the gynecological clinic at the Vanderbilt Clinic, at an estimated cost of $905.

To the anonymous donor of $1500, made through the Director of Cancer Research, to be added to the income of the George Crocker Special Research Fund.

To Mr. Charles R. Crane for his gift of $250, to be applied toward the purchase of books on the Near East.

To Mr. Gano Dunn, class of 1891, Science, for his gift of $250 to establish an annual scholarship in the Schools of Mines, Engineering and Chemistry for the academic year 1913–14.

To the anonymous donor of the sum

of $125, to be applied toward the tuition of a designated student in the School of Architecture during the academic year 1913-14.

To Mr. Herman Ridder and Mr. Paul M. Warburg for their gifts of $250 each, Mr. Gottfried Piel for his gift of $100, and Mr. Herman Behr for his gift of $50 toward the maintenance of the Deutsches Haus for the academic year 1913-14.

To Associate Professor Douglas W. Johnson for his gift of wall maps and photographs to be added to the equipment of the department of geology under the title of the Barton W. Stone collection of physiographic illustrations.

To Mr. J. Pierpont Morgan for the loan of a collection of illustrated manuscripts and early printed books of exceptional rarity and interest, illustrating the liturgy and history of the church, and to Professor Vladimir G. Simkhovitch of the faculty of political science, and to Mr. Roger Howson of the University Library, for their very efficient service in arranging the collection and supervising the exhibition now being held at the University.

To the trustees of the General Theological Seminary, to the Vestry of Trinity Church, to the trustees of Trinity College, and to the Rev. Dr. R. B. Drace, Rector of St. Paul's Church, Edenton, North Carolina, for their loans of books, portraits, manuscripts and other material illustrating the history of the Protestant Episcopal Church during the Colonial Period, and also to Mr. Edward H. Virgin, librarian of the General Theological Seminary, and the Rev. Joseph Hooper, of Durham, Connecticut, for their very efficient services in arranging the collection and supervising the exhibition now being held at the University.

To the staff of the *New York World* for their gift of a bronze replica of the bust of Joseph Pulitzer, executed by Rodin, together with a marble pedestal, to be placed in the School of Journalism.

The President reported the election by the faculty of medicine of Frederic S. Lee, Ph.D., professor of physiology, as representative on the University Council to succeed George S. Huntington, M.D.

The resignation of Cecil F. Lavell, Ph.D., as assistant professor of the history of education in Teachers College, was accepted.

The following appointments were made: James W. Jobling, M.D., assistant professor of pathology; John C. Baker, B.S. and M.Pd., laboratory assistant in engineering chemistry; Joseph Gardner Hopkins, M.D., associate in bacteriology; Reuben Ottenberg, M.D., instructor in bacteriology; Sergius Morgulis, Ph.D., instructor in biological chemistry; William A. Perlzweig, B.S., assistant in biological chemistry; Eugene Hillhouse Pool, M.D., associate in surgery; Frank Clark Yeomans, M.D., and John A. McCreery, M.D., instructors in surgery; Carolyn Sheldon, A.B., assistant in history, Barnard College.

W. B. Fite, Ph.D., professor of mathematics, H. E. Hawkes, Ph.D., professor of mathematics, and Hans Zinsser, M.D., professor of bacteriology, were assigned to seats in the faculty of pure science.

The following amendments to the statutes were adopted:

Chapter 1, section 7: Add to paragraph (b) the words, "Bachelor of literature in journalism upon the recommendation of the administrative board of the School of Journalism." Chapter 5, section 40: Insert in line 2, after the words, "the provost of the University", the words, "the director of the Summer Session and of Extension Teaching, the director of the School of Journalism."

ATHLETICS

Crew

On the first call for freshman crew candidates issued by Coach Rice, seventy-eight men reported. After two weeks work on the machines in the crew-room, the new men were boated in the barges at Edgewater, and under the tutelage of Rice and assistant Coach Plaistead, the candidates were given instruction in the rudiments of the Rice stroke. From time to time a varsity eight was boated, although there was no regular fall rowing for the old men. The freshmen were kept on the water until the cold wave set in on November 11. Although a large number of men reported at the first call, they dropped off from time to time owing to various causes. Every effort will be made during the winter to keep a large squad interested in rowing, so that in the spring the coach will have the opportunity of boating at least five boats.

Baseball

The fall interclass baseball series started on September 30 with a game between 1914 and 1915 which the juniors won. The schedule was somewhat broken up by inclement weather, and many of the games had to be postponed, but the last game of the series was finally played between the sophomores and freshmen on October 17, the former being victorious. The dates and scores of the games follow:

Date	Winner	Score	Loser	Score	
Sept. 30...	1915	7	1914	1	
Oct. 3...	1916	6	Law	5	
Oct. 4...	1914	27	1917	4	
Oct. 6...	1915	7	Law	3	
Oct. 7...	1914	8	1916	1	
Oct. 10...	1917	9	Law	0	Default
Oct. 13...	1915	8	1916	4	
Oct. 14...	1914	9	Law	0	Default
Oct. 15...	1915	11	1917	1	
Oct. 17...	1916	10	1917	5	

The men seemed to take considerable interest in the series. Seventy-three men turned out to represent the Law School and the four undergraduate classes. The freshman class was the highest contributor, twenty-one men reporting; 1914 was not far behind with sixteen; 1916 was next with thirteen representatives, and Law School and 1915 trailed with only twelve men apiece. The final standing of the teams was as follows:

Class	Won	Lost	P.C.
1915	4	0	1.000
1914	3	1	.750
1916	2	2	.500
1917	1	3	.250
Law	0	4	.000

Track

The cross country season opened with a much larger squad out than for some years past. Eighteen men competed in the first Van Am run, which was won by Simon, a handicap man. On October 22, the interclass run was held, twenty-five men competing. The race was won by 1914, with sophomores, juniors, and freshmen finishing in the order named. Ineligibility cut off some of the best runners in the squad, and as a result the team was not as strong as had been expected. The first dual meet took place on November 1, with Pennsylvania, the Varsity suffering defeat by a score of 17–39. On November 7, the Princeton runners outran the Columbia men, the tally being 15–49. Both races were run over the Van Cortlandt Park course, where the intercollegiate run was held on November 22.

On October 28, the third annual interclass fall games were held. Once more the class of 1914 came out victorious by a margin of more than twenty points over the juniors, their nearest rivals. The freshmen outscored the sophs in this meet. Medals were given for this meet for the first time, and doubtless aided in bringing out the large amount of good material which appeared.

The 1916–1917 meet was held on November 3. With the assistance of Gertz in the distance runs and Appleby in the sprints, who scored twenty points, the sophomores had little difficulty in running away with the meet. They won every track event, but were unable to hold the first year men in the field events. Both the shotput and broad jump were won by 1917, and in the high jump the youngsters gathered in all three places.

Basketball

Thirty-five freshmen reported on May 5 to receive their first instruction from Coach Fisher. After outlining the season's work, the new candidates were put to work learning the rudiments of the game. Practice is being held daily, and the head coach is being assisted by a number of the Varsity players. A schedule of games is being arranged for the first year men with the leading preparatory schools and first year teams of other universities. Varsity candidates will be called out on November 15 in preparation for the intercollegiate series, which begins early in January. Yale has reentered the league, and this fact alone should lend added interest to the series.

Miscellaneous

The hockey, wrestling, swimming, and gymnastic teams are busily engaged preparing for the winter campaign. Schedules are being prepared for the various collegiate competitions, the interest in all these sports seems to be at a high water mark, and under the coaching of capable instructors, Columbia should be well represented during the coming season.

The University Committee on Athletics has approved the following coaches for the various teams for the year 1913-14: Crew—James C. Rice, track—B. J. Wefers, basketball—Harry A. Fisher, hockey—T. A. Howard, wrestling—W. Bingham, swimming and water polo—Messrs. Kennedy and Holm, soccer—B. F. Davies, gymnastic—J. R. Helm, and fencing—James Murray, Jr.

H. A. Fisher

ALUMNI RECORD

The **Fourth Alumni Trustee Nominating Convention** on September 24 resulted in the election of Walter Mendelson, '79M, to fill the vacancy caused by the resignation of Lenox Smith, '65, '68S. Dr. Mendelson was put forward as a candidate of the Alumni Association of the College of Physicians and Surgeons. As no other candidate was placed in nomination, he was unanimously elected on the first roll call. The College and the Mines Associations selected their delegates to the nominating convention by a mail ballot. Although the College Association had never used this form of ballot before, 521 of the 1265 members eligible to vote took advantage of their franchise.

On September 27 Benjamin B. Lawrence, '78S, the first Alumni Trustee, gave a banquet at Salt Lake City to the **Utah** alumni in honor of U. S. Senator George Sutherland, on whom the honorary degree of LL.D. was conferred at the 1913 Commencement.

On September 26, October 8, and October 9, the alumni secretary attended meetings of the executive committees of the Philadelphia, Pittsburgh, and District of Columbia Associations, to explain in detail the proposed alumni reorganization. The Philadelphia and District of Columbia committees took favorable action on the matter at their respective meetings, but the Pittsburgh Committee, because of the unavoidable absence of the president of the Association and one or two other members of the committee, deferred action.

An attractively printed letter has been mailed to all alumni of the **Science Schools** by the committee in charge of preparations for the celebration of the fiftieth anniversary of the foundation of the School of Mines. The letter outlines a tentative plan for a three days' celebration of a social, academic, and historical character, requests alumni to mail suggestions to its secretary, Professor Ralph E. Mayer, '79S, Columbia University, and urges every alumnus to plan to be present at the celebration, which will be held May 27-29, 1914.

The annual meeting of the **College Association** was held at the Aldine Club on October 27. The annual report of the standing committee was read by Ambrose D. Henry, '84, chairman. Copies of it have been mailed to all members of the Association. The report was unanimously adopted by the Association and contains a warm endorsement of the new plan for alumni organization.

It expresses appreciation of the successful efforts of Robert Arrowsmith, '82, who retired from the managing editorship of the *Alumni News* with the last number of volume iv, in developing an alumni publication thoroughly creditable to Columbia and comparing favorably with the best of its kind.

Officers for 1913-14 were chosen as follows: President, Ambrose Dyer Henry, '84; vice-president, John Vernou Bouvier, '86, '88L; treasurer, George Earle Warren, '03 (reelected); secretary, George Brokaw Compton, '09 (reelected); members of the standing committee, term expiring 1916, E. de Peyster Livingston, '88, Rufus B. Cowing, Jr., '92, James R. Knapp, '00, Barent Lefferts, '03; for representative on the Alumni Council, term expiring 1916, Charles Sears Baldwin, '88.

President Butler, the Most Rev. Daniel Sylvester Tuttle, '57, of St. Louis, Missouri, and Walter Mendelson, '79M, fourth alumni trustee, spoke briefly before the address of the evening by Professor Charles A. Beard, of the department of politics, on Alexander Hamilton, class of 1774. Professor Beard gave entertaining sidelights on Hamilton's character and career, revealed by months of research during the past winter among original manuscripts in Washington.

The season of monthly dinners of the **Columbia University Club** opened very auspiciously on October 22 with a "clerics evening." The nature of the dinner may be attributed to the attendance of numerous Columbia graduates at the Protestant Episcopal Convention at the Cathedral of St. John the Divine. Presiding Bishop Tuttle, '57, was obliged to send regrets, but Rt. Rev. Theodore I. Reese, '94, Bishop Coadjutor of Southern Ohio, was introduced by Dean Van Amringe, president of the Club, as the first speaker of the evening. Rev. F. B. Van Kleeck, '63, of White Plains; former chaplain of the University, Dr. Oldham; Raymond C. Knox, '03, present chaplain of the University; Dr. Marcus Benjamin, '78S, president of the District of Columbia Association; Rev. Henry L. Jones, '58, of Wilkesbarre, Penna., and Alumni Trustee Mendelson, '79M, were the other speakers.

The **Class of 1899** formed a Mitchel's Classmates Club to support the candidacy of John Purroy Mitchel, '99, for mayor of New York. The Club made itself felt as a helpful factor in many of the activities of the fusion campaign.

On October 21 the **Philadelphia Alumni** opened their season with a smoker at the Engineers Club. Gustavus T. Kirby, '95S, '98L, president of the Amateur Athletic Union and one of the representatives of the Law Alumni Association on the Board of Directors of the Alumni Federation, and Dr. R. Tait Mackenzie, director of physical education at the University of Pennsylvania, were the guests of the evening. In addition, Mr. Kirby made a proposal for closer relations between the amateur and the professional athlete, which aroused widespread attention.

The **Law Association** entertained Sir Courtenay Ilbert, chairman of the Statute Law Committee of Parliament and clerk of the House of Commons and Carpentier lecturer at the University for the current year, at a smoker on October 27 at the Columbia University Club. Judge George L. Ingraham, '69L, president of the Association, presided. Mr. Thomas I. Parkinson explained the workings of the Legislative Drafting Research Bureau, which was organized at Columbia in 1911.

At meetings of the Alumni Council held on October 22 and October 29 the final steps in the formation of the **Alumni Federation of Columbia University,** which has been under consideration since early last spring, were taken. Announcement was made that approvals of the suggested reorganization had been reported by the secretaries of the College, Medical, Law, Science, and Ph.D. school associations, and the California, District of Columbia, Illinois, Mexico, Minnesota, New Jersey, Northern New York, Philadelphia, Washington, and Western New York local associations. On the basis of these reports the Alumni Council decided to proceed with the actual organization of the Federation. John Howard Van Amringe, '60, was elected first president of the new organization; William Curtis Demorest, '81, '83L, is vice-president; Gustavus T. Kirby, '95S, '98L, treasurer; George Brokaw, Compton, '09, '13L, executive secretary; and Levering Tyson, '11 A.M., recording secretary. The Board of Directors is constituted as follows: Directors at large—Thos. B. Stearns, '81S; Robert Arrowsmith, '82; W. M. L. Fiske, '00; directors from the College—Ambrose D. Henry, '82; Charles Sears Baldwin, '88; Channing R. Toy, '04; from the School of Law—William Curtis Demorest, '81, '83L; Gustavus T. Kirby, '95S, '98L; R. Stuyvesant Pierrepont, '05, '12L; from the School of Medicine—J. Arthur Booth, '78, '82M; Lucius W. Hotchkiss, '81, '84M; George G. Cochran, '84M; from the Schools of Science—Charles B. Going, '82S; Edgar G. Barratt, '84S; Daniel E. Moran, '84S; from the Doctors of Philosophy—Floyd Appleton, '93, '06 Ph.D.; George A. Soper, '99Ph.D.; Charles A. Downer, '01Ph.D. The executive secretary is managing editor of the *Alumni News,* and the recording secretary assistant managing editor.

Several thousand leaflets explanatory of the plan of reorganization have already been mailed. Eventually every living alumnus will receive one. Before the new Federation could be formed it was necessary to meet a deficit of about $3,500, an accumulation of three years, which the Council faced on July 1, 1913. In order to meet this the Alumni Council did not find itself obliged to make a general appeal, personal work among those most easily reached by its members bringing about the result desired.

George Brokaw Compton, '09, '13L

NECROLOGY

Baker, Joseph Disbrow, '71L, died in Cranford, N. J., on August 8, 1913.

Bishop, Hartwell, '05S, died in Boston, Mass., on June 4, 1913.

Bush, James F., '80, died in Portland, Maine, on August 24, 1913.

Chapin, Robert Coit, '09Ph.D., died in Whitfield, New Hampshire, on September 12, 1913.

Curtis, John Green, '70M, died in Chatham, Mass., on September 20, 1913. See p. 54.

Doane, Bishop William C., '67, died in New York City on May 17, 1913.

Elliott, Richard Aston, '98L, died at Saranac Lake, New York, on May 9, 1913.

Gardner, John Charles Fremont, '77L, died in Nantucket, Mass., on July 24, 1913.

Gieson, Ira Van, '85M, died at the Bellevue Hospital, New York City, on March 25, 1913.

Haight, Edward, '61, died in New York City on September 20, 1913.

Harris, Orrin Franklin, '66M, died in Norwich, Conn., on January 4, 1913.

Hartley, Frank, professor of clinical surgery at the College of Physicians and Surgeons, died in New York City on June 19, 1913.

Hartley, John P., '80M, died in New York City on June 19, 1913.

Hawkesworth, John, C.E. '04, died recently in New York City.

Henry, James Robert, '12A.M., died in Atlanta, Ga., on July 18, 1913.

Hopkins, Milton, '86L, died in New York City on March 4, 1913.

Howe, Harmon George, '75M, was killed in the wreck at Stamford, Conn., on June 12, 1913.

Ireland, John B., '41, died in New York City on October 3, 1913.

Johnson, Arthur M., '77L, died in Plainfield, N. J., on June 20, 1913.

Lahey, Joseph, '87S, died in Brooklyn, New York, on June 20, 1913.

Lee, Frederick Howard, '82, died in New York City on July 26, 1913.

Léon, Alexis Marcy, '78M, died in New York City on November 2, 1913.

Livingston, Solomon B., '73L, died in New York City on July 13, 1913.

Manners, Edwin, '79L, died in Jersey City, N. J., on May 5, 1913.

Maynard, George William, '59S, died in Boston, Mass., on February 13, 1913.

Mitchell, William Anderson, '63, died in Brooklyn, New York, on September 26, 1913.

Muir, C. Augustus, '82L, died in Morristown, N. J., on May 26, 1913.

Noorian, Nouri Zado, '12S, died on May 22, 1913.

Ogden, Robert C., a trustee of Teachers College, died on August 6, 1913.

Posthauer, Joseph William, '95M, died in Burlington, Vermont, on September 22, 1913.

Price, Edward W., '75, '77L, died in Brookline, Mass., on May 9, 1913.

Sabine, William Tufnell, '59, died in New York City on August 11, 1913.

Sargent, Charles Chapin, Jr., '97, died in Bedford, New York, on August 26, 1913.

Stafford, Charles Morton, '72L, died in Brooklyn, New York, on October 22, 1913.

Struthers, Herbert Harlow, '09S, died in New Orleans, La., on August 12, 1913.

Sutro, Harry H., '98S, died in New York City on January 20, 1913.

Vanderveer, Thomas Coome, '93L, died in New York City on May 2, 1913.

REGISTRATION AT COLUMBIA UNIVERSITY IN ALL FACULTIES, DURING THE ACADEMIC YEAR 1912–13

Faculties	First Year	Second Year	Third Year	Fourth Year	Non-candidates	Graduates	Total 1912–1913
Columbia College*	311	210	152	174	30	....	877
Barnard College	184	155	144	86	49	....	618
Total undergraduates	495	365	296	260	79	....	1,495
Faculty of Political Science	....	....	....	....	32	382	414
Faculty of Philosophy	....	....	....	....	92	749	841
Faculty of Pure Science	....	....	....	....	31	284	315
Total non-professional graduate students**	....	....	....	....	....	....	1,570
Faculty of Applied Science***	180	161	146	159	23	....	669
Faculty of Law***	139	161	137	....	41	....	478
Faculty of Medicine***	73	61	76	106	28	....	344
School of Journalism***	16	10	13	15	22	....	76
Faculty of Pharmacy	222	148	....	....	36	8	414
Teachers College { School of Education	....	....	437	416	275	294	1,422
Teachers College { School of Practical Arts	174	73	12	....	3	....	262
Faculty of Fine Arts { Architecture	115				24	2	141
Faculty of Fine Arts { Music	4				10	2	16
Total professional students	....	....	....	....	....	....	3,822
Deduct double registration †	....	....	....	....	....	....	362
Net total	....	....	....	....	....	....	6,525
Summer Session, 1912	....	....	....	....	....	....	3,602
Grand total	....	....	....	....	....	....	10,127
Deduct double registration ‡	....	....	....	....	....	....	748
Grand net total	....	....	....	....	....	....	9,379
Students in extension teaching (net) §	....	....	....	....	....	....	1,828
Special students in Teachers College ††	....	....	....	....	....	....	1,913

* The registration by years in Columbia College is according to the technical classification, deficient students being required to register with a class lower than that to which they would normally belong.

** The total, 1570, does not include 96 college graduates in law (70), medicine (19), and applied science (4), who are also candidates for the degree of A.M. or Ph.D. It likewise does not include 575 candidates for the higher degrees enrolled in the Summer Session who did not return in either of the succeeding half-years. For classification by faculties see Table IV.

*** Exclusive of college students also registered under the professional faculties (in the exercise of a professional option), as follows: 10 Seniors in the Schools of Mines, Engineering and Chemistry (Faculty of Applied Science); 47 Seniors in the School of Law; 13 Juniors and 12 Seniors in the School of Medicine; 8 Seniors in Teachers College; 1 Junior and 4 Seniors in the School of Architecture; 2 Juniors and 2 Seniors in the School of Journalism.

† Of the total, 349 are Teachers College students, 294 enrolled in the Faculty of Philosophy as candidates for the higher degrees (172 men and 122 women) and 55 special non-candidates (31 men and 24 women); and 13 are Columbia College students who graduated in February and subsequently enrolled in some other school of the University.

‡ Summer Session students who returned for work at the University.

§ Attendance at the University (excluding 410 matriculated students and 74 students also registered in the Summer Session), 1645; attending away from the University, 283.

†† Including 304 in Evening Technical courses and 1609 in special classes.

FURNALD HALL JOURNALISM